



# SUSTAINABILITY REPORT 2020/2021

German Aerospace Center (Deutsches Zentrum für Luft und Raumfahrt e. V.)



DLRnachhaltigkeit

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We report on our sustainability performance



The  
SUSTAINABILITY  
Code  
Signatory **2021**

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## ABOUT DLR

The German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) is the **research centre of the Federal Republic of Germany, with approximately 10,000 employees** working in the fields of:

- Aeronautics,
- Space,
- Energy and Transport, as well as
- Security and Digitalisation.

The German Space Agency at DLR **plans and implements the German space programme** on behalf of the Federal Government.

Two DLR project management agencies oversee **funding programmes** and support **knowledge transfer**.

Climate, mobility and technology are all subject to global change. We draw upon the expertise of our [55 institutes and facilities](#) at [33 sites](#) to develop solutions to these challenges (examples of projects to support the Sustainable Development Goals are listed in the German Sustainability Code Criterion 3, Objectives). We build on the development of environmentally friendly technologies for communication, security and future energy supply and mobility.

We share a common goal:

**“To explore Earth and space and develop technologies for a sustainable future.”**

By pursuing this mission, we are helping to consolidate Germany's status as a prime location for science and industry. Research at DLR is strategically geared towards three core elements: excellence in science, contribution to overcoming societal challenges and partnerships with industry.

DLR's research portfolio ranges from basic research to the development of **future-forward, sustainable products**.

In addition, DLR operates approximately 180 large-scale research facilities, promotes the **qualification of young scientists**, provides **expert advice on policy** and **drives innovation** in the regions where our sites are located. DLR is mainly financed with funds from the Federal Ministry for Economic Affairs and Climate Action (BMWK) and acts as a **partner of government and business at national, European and global levels**.

### Additional notes

We have been conducting sustainability reporting every two years since 2014. This is expected to change in the 2025 reporting year.

The DLR Sustainability Reports provided important support when DLR joined the UN Global Compact. So far, they have been used in the UNGC Communication on Engagement and have been published accordingly. The DLR Sustainability Report retains the same function, but from this reporting period onwards will also be supplemented with content from the German Sustainability Code and DLR-specific information (<http://unglobalcompact.org/participant/142403>).

Since the 2016/2017 reporting period, the German Sustainability Code Declaration has been a useful and necessary addition to other DLR publications, DLR's social media presence and the newly launched DLR website at [www.dlr.de](http://www.dlr.de). All facts and figures relate to the reporting period from 1 January 2020 to 31 December 2021 for all of DLR, across its 33 sites and 55 facilities and institutes. The editorial deadline for content was July 2022. Due to the altered working conditions, the finalisation of the Declaration was delayed until spring 2023 in order to take the developments from 2022 into account.

In addition to applying the criteria of the German Sustainability Code, reporting is also carried out with reference to the GRI standards by using the GRI indicator set.

This declaration of compliance with the German Sustainability Code was not checked externally, but was reviewed by a sustainability expert/GSC training partner before being submitted.

This year, the data from the certified energy management system was used for the environmental indicators. The changes are partly due to more accurate meter readings. In addition, we were increasingly able to refer to DLR's own data and exclude external consumers, such as testing conducted by external parties on our infrastructure. Conversion factors for carbon dioxide values have been updated using the sources listed below. The 2021 German electricity mix and emission values for specific municipal utilities were used to calculate the carbon dioxide emissions from electricity consumption. Determining certain waste values always causes issues. A DLR-wide software solution is being implemented in order to address these challenges more effectively. It is scheduled to launch in late 2023.

# DLRnachhaltigkeit

## CRITERIA 1–10: SUSTAINABILITY CONCEPT STRATEGY



## 1. STRATEGIC ANALYSIS AND MEASURES

In 2021, DLR did not yet have a sustainability strategy of its own. This will be developed for the whole of DLR and published in 2023.

This process started with our **overall strategy (Next Generation DLR)** from 2014, in which the sustainable consumption of resources was defined as a key challenge. The **'Research for Sustainability'** and **'Sustainable research and work'** guidelines were also set out in this strategy, as a way of guiding our work. The subsequent [DLR Strategy 2030](#), formulated in 2017, explicitly defined the **'contribution to overcoming societal challenges'** in terms of research. The objective of **'firmly embedding sustainable action'** was then proclaimed to increase performance as part of DLR's organisational development.

This objective is to be defined and implemented as part of the **DLR Sustainability Strategy**, which will be completed in mid-2023. It will support the German federal government's Sustainable Development Strategy and align with the Helmholtz Association (HGF) guidelines. Various bundles of measures under GSC Criterion 2, Materiality, will become part of the DLR Sustainability Strategy. **DLR's proKlima** concept, which combines all reduction measures that impact on greenhouse gas emissions into a coherent climate strategy, will also be incorporated.

In the area of sustainability, DLR continues to draw upon the findings of the joint project **'Sustainability management in non-university research institutions'** ([LeNa](#)). We adopted and gradually implemented the sustainability aspects identified in the LeNa project and their specific fields of action as essential guidelines (see Criterion 2). Our objectives and measures are developed and implemented in the LeNa fields of action and functional areas of Sustainable Organisation, Research Topics and Research Processes, Human Resources Management, Research Infrastructure and Support Processes, and we monitor their impact. DLR's sustainability measures have a particular focus on the fields of action and topics identified as part of the materiality analysis (see GSC Criterion 2. Materiality).

**WE SUPPORT**



We are committed to the core principles of the UN Global Compact. Our sustainability reporting is based on the German Sustainability Code and the international Global Reporting Initiative (GRI).

## 2. MATERIALITY

Our main areas of focus are based on the aforementioned LeNa handout (see GSC Criterion 1, Strategy). In 2020, we conducted materiality analysis involving both internal and external stakeholders. The specific **procedure** can be found in the [2018/2019 Sustainability Report](#), p. 15f.

As a result of internal analysis, no significant new sustainability issues were identified or included for DLR, so we decided not to update the materiality analysis in 2020/2021.

### The following continue to be key fields of action and areas of focus at DLR:

#### Sustainable organisation:

- Transfer and exchange,
- Integrated strategy planning
- Inclusive organisational development,
- Systematic embedding of sustainability.

#### Research topics and processes:

- Socially responsible research.

#### Personnel management:

- Service and service-oriented human resources management,
- Human resources development (development and structuring).

#### Research infrastructure:

- Rating system for sustainable building,
- Life-cycle assessment,
- Operation and management,
- Corporate Carbon Footprint and **DLR proKlima**.

#### Support processes:

- Mobility,
- Procurement.



### Inside-out perspective: how do our activities affect sustainability?

The greatest impact – and the greatest potential to impact on sustainability issues through our activities – comes from DLR's research. These can currently be found on our website [www.dlr.de/en](http://www.dlr.de/en) and offer a broad overview of content, results, events and communication, reflecting the responsible approach towards DLR's mission.

One key framework for DLR is its membership of the Helmholtz Association e. V. (HGF). When the HGF was founded, financing for the 18 current major research centres in Germany was transferred to a process of programme-oriented funding. It currently covers the following six research fields: Energy; Earth and Environment; Health; Information; Aeronautics; Space and Transport; and Matter. DLR has a conceptual pioneering role and a unique position among large research institutions. With its many years of experience in the programme-based orientation of activities and its strategies for networking in Germany and Europe, DLR is a role model for other large research institutions. DLR is the only large-scale research institution to cover the research areas of aeronautics, space and transport using programme-oriented funding.

By focusing on energy, it also conducts significant research in the fields of renewable energies, energy efficiency, materials and resources, storage and networked infrastructures, and the role of technology, innovation and society in the research field of energy. As such, it addresses key innovation-related areas for the energy of tomorrow. Finally, in coordination with the Federal Ministry of Defence (BMVg), DLR conducts a research programme that is making a substantial contribution to national security. One special feature of DLR is its

role as Germany's space agency on behalf of the federal government. In this function, it is responsible for a budget of around one billion euros. Its assigned tasks include drawing up German space funding based on the federal government's space strategy, implementing space programmes and representing funded German space interests within an international environment, especially at the European Space Agency (ESA). In particular, it is instrumental in funding long-term research objectives by third parties that require the use of space applications, such as the Max Planck Society, the Helmholtz Association centres, universities and industry.

Scientific research highlights in the 2020/2021 reporting years include:

[Clean aircraft fuels with the project EXACT – Exploration of Electric Aircraft Concepts & Technologies](#),

[The BiG C.R.O.P.® Biofilter](#),

[The project PEGASUS – storing solar power in sulphur](#),

[A focus on Cooperative Mobility in the Düsseldorf test field \(KoMoDnext\)](#),

and the [Hamburg Real Lab \(RealLabHH\)](#)

as well as eight sub-projects on digital mobility solutions and a joint acoustic measuring campaign for helicopters with the German Armed Forces. All of the projects are recorded internally, with details of their scientific significance, partners, contribution to technology transfer and future challenges.

### Outside-in perspective: how do aspects of sustainability impact our activities?

Restructuring activities at the Helmholtz Association (HGF) and DLR itself are giving ever greater impetus to the DLR management system and DLR as a whole. The amplification of strategic topics internally and externally, the resulting establishment of new research fields, and the creation of new locations with specific local requirements have a direct and indirect effect on DLR's processes, methods and resources. In addition, specific requirements arising from the DLR environment, including customers, partners and suppliers, provide starting points that drive the development of management systems in DLR as a whole and in its individual subsystems. The reorganisation of our DLR management structures and supervisory bodies in 2020/2021 was another driver for the design of the management system and is still having an effect. Current climate policy landmarks (updating of the German Sustainable Development Strategy and the programme of measures for a climate-neutral federal government by 2030) at the German and EU level (EU Green Deal) are closely observed and integrated into our activities. Due to the increasing focus on carbon neutrality, the Energy, Environment and Sustainability team are currently considering how DLR can contribute to this objective. They acknowledged that this requires a stronger focus on carbon dioxide emissions in DLR's energy supply, not only with regard to the control parameters in the energy management system, but also in areas such as human resources, buildings and infrastructure, research and supporting processes, and organisational management.

The new EU Corporate Sustainability Reporting Directive (CSRD), which is set to be implemented by DLR beginning with the 2025 reporting year, is also worth mentioning. Integration into the existing management system needs to be improved to ensure that the topic of sustainability is properly embedded and internalised in the areas mentioned throughout DLR. To this end, gap analysis is currently being conducted to

systematically identify DLR processes and guidelines that are already embedded within the management system and contributing towards sustainability. This makes it possible to identify interfaces and any gaps in processes that have hitherto been overlooked or that can and should be integrated.

The new Packaging Act, which will require reusable packaging from 2023, is driving internal efforts towards reusable packaging in our business. The General Equal Treatment Act also applies when it comes to human resources. This stipulates that the employer must protect its employees from sexual harassment and discrimination. DLR has numerous measures in place for this purpose. For instance, employees undergo training to familiarise them with the contents of this law as a preventative measure, and DLR also offers a helpline service called MUT (My Support Telephone).

The establishment of a sustainability management system has ushered in a great many changes at DLR, requiring change management. This has opened up many opportunities, such as the introduction of an energy management system (EMS) in 2019. This enables more precise collection of data, which in turn can be used in sustainability management to determine the carbon footprint. In 2020 and 2021, the certified EMS at DLR was refined and expanded. The more precise recording of energy consumption data for each location or even for each building unit at DLR makes it possible to develop a climate protection plan for DLR and adhere to the federal government's vision and the objectives of the Federal Ministry for Economic Affairs and Climate Action (BMWK).

The Covid-19 pandemic had a particularly marked effect on the reporting years, with a major impact on the working behaviour of employees at DLR. In retrospect, this represented both opportunities and risks. Working from home, which was initially mandatory, gives employees greater freedom and flexibility. A works agreement on mobile working was drawn up at DLR on the basis of this newfound experience. A new form of virtual communication for dealing with emergency and crisis situations at DLR was tested and found to be effective. This meant that the process for handling crises at DLR could be put into action without any issues. One new opportunity that emerged as part of the crisis-related changes at DLR was increased awareness of the issue of mental and psychosocial health among employees, due to the unprecedented situation and the isolation that sometimes accompanied it. Health Management at DLR has developed a wide variety of formats to deal with this. Working from home made it difficult for many to separate their private and working life, and later disrupted the normal practice of working together in person.

We plan to update our materiality analysis based on the principle of double materiality in 2023 following the publication of the European Sustainability Reporting Standards. We will incorporate a detailed inside-out and outside-in analysis into the results, reflect on the positive and negative effects on people and the natural world, and elicit even more specific opportunities and risks on that basis.

### 3. OBJECTIVES

**We are looking to implement a sustainability management system** at DLR with the central components of Strategy, Organisation, Planning and Control (KPI), and Reporting and Communication. The **internal guidelines on 'Research for sustainability' and 'Sustainable research and work' can be implemented and monitored** across all areas of DLR (Research and Development, Project Management, and Facility Management) in this way.

Integrating sustainability management means relying on the established structure of the quality management system and working together on an integrated approach for the management systems at DLR. In DLR's Core Sustainability Team, those in charge in the key organisational units come together to identify areas where action is needed and to devise appropriate measures. We also use this channel to carry out annual updates, ensure monitoring and continue to achieve **'sustainability awareness'**. In 2020, the Executive Board appointed a Board Representative for Sustainability at DLR as a central control element.

Another objective with especially high priority is the **formulation and establishment of a DLR sustainability strategy**, as this will provide the specific sustainability activities an overarching framework. This objective is set to be achieved by mid-2023. The strategy should be accompanied by a more systematic monitoring of objectives and measures.

**Embedding sustainability within the DLR management manual** remains on the agenda and is gradually being brought across to the structure and processes of everyday work by the Executive Board Representative and Sustainability department. To this end, in 2022 we initiated gap analysis to identify the DLR organisational processes (the LeNa functional areas mentioned under 1.) in which sustainability aspects need to be supplemented or adjusted.

One relatively high-priority medium-term sustainability objective is to **determine DLR's carbon footprint in greater detail and expand upon it in relation to the Scope 3 emission categories**. (For details, see German Sustainability Index Criterion 12, Resource management, and 13, Climate-relevant emissions.)

#### Sustainable Development Goals (SDGs)

At DLR, we have made it our mission to support the attainment of the SDGs with our expertise in the research areas of space, aeronautics, energy and transport, and the cross-cutting area of security. The DLR Projektträger's expertise in research funding, government advice, dialogue processes between politics, science, business and society, and international cooperation is also committed to fulfilling the SDGs. As part of our research projects and daily activities, DLR supports a large number of the Sustainable Development Goals.

**By way of example, research fields in the 2020/2021 reporting period include the following:**



#### SDG 7: AFFORDABLE AND CLEAN ENERGY

- [Future Fuels.](#)
- [Solar thermal power plants.](#)
- [Wind energy.](#)
- [Networked energy systems.](#)
- [Gigastore.](#)
- [Sector coupling.](#)



### SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

- [Building bridges: Science2Business.](#)
- [Research for the train of the future.](#)
- [Aerogels.](#)
- [Multimedia Satellite Networks.](#)
- [Telerobotics.](#)



### SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

- [Using Earth observation to record changes in land surfaces.](#)
- [Monitoring refugee camps.](#)
- [Identifying slums from space](#)
- [Measuring air pollution from space.](#)
- [Urban development research funding.](#)



### SDG 13: CLIMATE ACTION

- [Monitoring climate change and supporting aid organisations.](#)
- [Investigating the climate impact of aviation.](#)
- [Using technological and operational measures to reduce the climate impact of aviation.](#)
- [Preparations for the Merlin mission.](#)
- [Preparations for the Tandem-L mission.](#)
- [Transport development and the environment.](#)
- [Government advice and research funding on climate change.](#)



## 4. THE DEPTH OF THE VALUE CHAIN

### Our research as a service

Our research functions as a service that creates knowledge in the form of patents, publications and licences. These research findings are geared towards the benefit of society. We regularly determine our impact and publish it in our annual statistics (see Sustainability Reports in the report section of the same name), in the form of various performance indicators such as the number of reviewed publications, patents registered, teaching positions taken, university degrees supervised, our Open Access share of publications, number of young scientists sponsored, visitors to the DLR\_School\_Labs, and participants in teacher workshops. We also see disseminating data and findings to researchers from other institutions and making infrastructure available for contracts from industry and research as a service for other research institutions and society at large.

### Central procurement

At DLR, procurement is handled centrally by the Purchasing department. In addition to cost effectiveness, social and environmental aspects are increasingly being taken into account in the awarding process. These are communicated to bidders as part of the tender documents and are recorded in the internal **'Sustainability in Purchasing'** guidelines. This contains sustainability criteria for all relevant product groups at DLR.

The following projects from the 2020 and 2021 reporting years are examples of sustainable purchasing:

- The auditing of German Social Accident Insurance (DGUV) Regulation 3 (accident prevention regulations for electrical systems and equipment) was carried out by an external company at the DLR site in Oberpfaffenhofen.
- Waste disposal tender: Proof of certification as a waste management facility
- Document destruction (on-demand orders must be paperless),
- Green electricity according to EE01 certification (sustainable exclusion criteria),
- Carbon dioxide emissions from vehicle fleets of key suppliers making regular trips to DLR (evaluation criterion),
- Hotel contracts that take account of sustainability criteria (for example, concepts for waste, water, food & beverages),
- Major customer agreement with railway, specifying electricity from renewable energy sources,
- Client tender (workstation efficiency assessed, packaging should be sustainable),
- Various company-related sustainability concepts such as solar power systems and water saving were positively evaluated in the concept,
- Carbon-neutral supply
- Compliance with specific energy efficiency classes
- Due to long-term efforts for greater sustainability, some tenders were also carried out with sustainability criteria, such as proof of an environmental label or an Ecovadis rating.

- New framework agreements for more sustainable products were also concluded. Examples include multifunctional devices and printers, considering power consumption on standby mode, and packaging material in canteens made from renewable raw materials.

Among other things, **challenges** in procurement arise from the specifications of public procurement law and budgetary framework conditions. The special demands of scientific research, where there may be only one device that meets the requirements, make it difficult to evaluate and fulfil sustainability criteria in some areas. The potential of sustainable procurement in line with funding legislation can be harnessed more effectively in future by providing training and raising awareness among those responsible.

Societal and environmental issues relating to non-sustainably produced goods or services were not systematically

analysed in the reporting period, as this is not always possible due to the diverse nature of procurement. Should problems arise in future, DLR will work out solutions together with its contractors or look for sustainable alternative solutions.

Another key challenge for DLR is the follow-up monitoring of certifications and other authentications. We endeavour to resolve environmental, societal and economic issues in the run-up to procurement by defining appropriate sustainable evaluation criteria, especially for large tenders. One example of this approach was the switch from normal electricity to electricity from renewable energy sources. In a wide variety of formats, including supplier workshops and personal selection interviews with potential suppliers, DLR discusses potential problems and **challenges** in the value chain with sponsors and stakeholders in technology marketing and R&D partnerships.



## CRITERIA 1–10: SUSTAINABILITY CONCEPT PROCESS MANAGEMENT





## 5. ACCOUNTABILITY

An **Executive Board Officer for Sustainability** was appointed in 2020. Together with the **Core Sustainability Team**, he is responsible for sustainability at DLR. The team comprises those responsible for the various organisational areas relating to sustainability, such as Human Resources, Purchasing, Compliance, Construction, Research Programmes, the Science and Technology Council and the Works Council. These individuals represent the organisation. Their task is to identify areas in which there is a need for action and to develop measures to improve DLR's sustainability profile. The **Sustainability Department** is constantly evolving. Its concerns form part of the remit of the **Vice Chair of the Executive Board** to ensure that the growing tasks and complexity of implementing sustainability over the long term are given the attention they deserve. These structural requirements are of great importance when establishing sustainability management, as they affect the entire organisation.

In future, **coordinator roles** for sustainability will also be set up for clusters of sites. The core team meets at least once a year and is otherwise in regular contact with the Sustainability Officer as required. These meetings serve to monitor and update the sustainability programme at DLR.

The **Executive Board, Corporate Development**, the structure surrounding the Executive Board representatives and the Sustainability Department are responsible for developing the DLR Sustainability Strategy. The Sustainability Department is jointly responsible for content, control and analysis.

DLR has a similar structure for occupational safety and environmental protection: in this case, the **Safety and Environmental Protection Officer** advises the Executive Board on the specific areas of focus.

## 6. RULES AND PROCESSES

We use an integrated, company-wide system set-up to integrate the topic of sustainability into research activities, management processes, supporting processes and the research infrastructure.

The international standard for quality management systems, DIN EN ISO 9001, was defined as the minimum standard for all DLR institutes and facilities. We are constantly striving to

ensure that all our institutes and facilities are certified across the board, but this is hampered by the growth and expansion of the research institutes. For this reason, newly-established DLR institutes and facilities are the priority when it comes to setting up management systems. In addition to the minimum standard, several institutes and facilities have integrated **sector-specific standards in the areas of quality, occupational safety, environmental management and**

**information security** (VDA 6.2, OHSAS 18001, DIN EN ISO 14001, DIN ISO 27001) and are certified accordingly. DLR has three accredited laboratories in accordance with DIN EN ISO 1702518 (**laboratory management**), accreditation in accordance with the **process management system** NADCAP19 and approval by the **Federal Aviation Office for development and flight operations**.

The Executive Board created our organisational framework. We integrate other areas of focus, such as energy management, sustainability and environmental protection, into the DLR management system on this basis. In addition to the certification of quality management in accordance with DIN EN ISO 9001 in its decentralised form, **energy management** for all of DLR is certified according to DIN EN ISO 50001. The next step is to set up an organisation-wide environmental management system based on DIN EN ISO 14001.

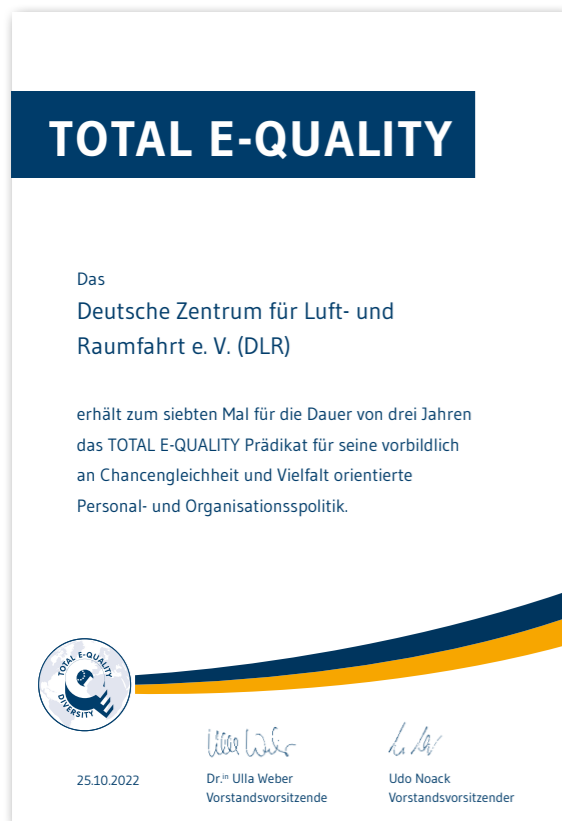
A number of **additional guidelines** integrate various aspects of sustainability into DLR processes:

- The ethics of scientific research
- Basics of research data management
- Design and equipment of structural systems
- Principles of procurement
- Agreement on promoting equality

DLR has held the **audit berufundfamilie** certificate for ensuring work-life balance since 2002. Since 2004 DLR has regularly been granted the **TOTAL E-QUALITY** award for equal opportunities.

Our DLR-wide **risk management system (RMS)** was established in 2002 and meets the requirements of the Law on Control and Transparency in Business (KonTraG). The key task is to identify, evaluate, monitor and manage any significant threats to DLR's economic and financial situation at an early stage.





Effective risk management therefore requires the involvement of all employees and embedding within DLR's business processes. As such, the risk management system should be considered as ongoing operational risk management. Through organisational regulations, especially the clear assignment of responsibilities, this also ensures that risks are identified at an early stage and regularly evaluated and monitored. DLR's risk management system is the responsibility of the Executive Board. The main responsibility lies with the Vice Chair of the Executive Board. Responsibility for the operational control of the risk management system

rests with Controlling and is implemented by the RMS Coordinator. The risk policy and procedures and regulations for DLR's risk management system are set out in the risk management manual and updated as necessary.

DLR's risk management system is currently divided into the following 22 monitoring areas: Managing orders; Managing human resources; Finance; Planning and controlling resources; Strategy; International relations; Purchasing; Technical infrastructure; Technology marketing; General legal matters; Information and communication technology; German Space Agency at DLR; DLR Projektträger; Joint Ventures; Transport programme research; Space programme management; Aeronautics programme research; Energy programme research; Security research programme coordination; Compliance; Business information systems; and Data protection.

Each of these areas is overseen by a responsible risk coordinator and a representative. Direct responsibility for the early detection, evaluation, control and monitoring of risks lies primarily with the risk coordinators of the respective monitoring areas. Depending on their classification, risks are communicated at different levels within DLR.

A complete review of all risks is conducted once a year as part of the risk inventory. This inventory culminates in the drafting of the risk report by the RMS Coordinator for the Executive Board. Upon approval by the Executive Board, the report is presented to the auditors as part of the audit of the annual financial statements. The DLR risk management system is also part of the audit plan by the Internal Auditing and Joint Venture Management Department.

## 7. CONTROL

We are currently in the process of setting up a system of performance indicators to monitor the achievement of objectives in the main areas of sustainability, as not all of the objectives have been defined in concrete terms.

We report the performance indicators required as part of the German Sustainability Code Declaration, in accordance with the international GRI standards. These standards ensure high quality in data acquisition and processing.

**More precise formulation of objectives and the associated control mechanisms** will be developed as part of a DLR Sustainability Strategy by mid-2023.

As part of the audit of the annual financial statements, the auditor obtains an insight into DLR's risk management system (RMS) every year. This will be done for 2021. The auditor confirms that the Executive Board has taken the necessary measures to set up an early warning system for risks in a suitable form and that this is also suitable for the early detection of risks that threaten the ongoing existence of the organisation.

Performance indicators in procurement are controlled and monitored centrally by the Sustainability in Purchasing working group (see GSC Criteria 4, Depth of the value chain, and 17, Human rights).



The Safety and Environmental Protection Officer at DLR was tasked with introducing and overseeing the energy management system.

The heads of the institutes and facilities are responsible for compliance with and implementation of the guidelines for preventing corruption in their respective areas. If there is a suspicion of corruption or bribery, they are obliged to get in touch with the relevant contact persons. Ongoing checks are also conducted by the Internal Auditing Division at DLR.

At DLR, many **key figures are collected from the areas of finance and human resources, including diversity, networking, resources and quality and product assurance**. These are also regularly published as facts and figures in status updates, most recently in the DLR Sustainability Report.

The following **key figures and consumption levels specific to the development of sustainability at DLR have been particularly important to date:**

- Training days per employee
- Implementation of the cascade model
- Number of business trips: air miles (CO<sub>2</sub>), rental car (CO<sub>2</sub>), kilometres travelled by rail (CO<sub>2</sub>); fuel used by research fleet (CO<sub>2</sub>),
- Accident figures (national average according to DGUV),
- Percentage of open-access publications.

In 2020/21, we were able to improve our consumption figures in the area of business trips in particular (cf. GSC Criterion 13, Climate-relevant emissions, along with the performance indicator). DLR's energy management system is also hugely important to the consistency of the data (see GSC Criterion 12, Resource management).

### **Performance indicators for criteria 5 and 7**

#### *Performance indicator GRI SRS-102-16: Values*

Among other aspects, DLR's values, principles, standards, internal topic-specific mission statements from our research areas, an internal code of conduct, principles that are important for the economic, environmental and social performance of the organisation, and details of how these are implemented are evidenced by the following initiatives and documents:

- [Strategy 2030 \(short version available externally\)](#),
- [Quality and Product Assurance](#),
- Environmental management,
- Energy management,
- [Guidelines for sustainability management in non-university research institutions \(LeNa\)](#),
- Internal DLR Code of Conduct.

## 8. INCENTIVE SYSTEMS

DLR is institutionally funded by the Federal Ministry for Economic Affairs and Energy (now the Federal Ministry for Economic Affairs and Climate Action) through a resolution in the German Bundestag. The Collective Agreement for Civil Service Employees (Entgeltordnung des Tarifvertrags für den öffentlichen Dienst des Bundes, TVöD Bund) applies to employees. This does not include any remuneration options explicitly for the achievement of sustainability goals.

Incentive systems for sustainability are not yet consistently in place at DLR. This will gradually change due to the **aim of establishing more sustainability incentives in target agreements** from 2018/2019. At certain management levels, sustainability considerations are already being incorporated into the annual target agreements. **Control** is the responsibility of the Vice Chair of the Executive Board. DLR sustainability targets are mostly strategic targets, with local managers responsible for implementing them. However, such implementation is discussed at every target agreement meeting. The establishment of an energy management system at DLR was also based on a specific target agreement.

The embedding of sustainability is closely related to the integrated management system that is currently being set up. The discussions that take place in the steering committee are an important aspect of this.



**Internal prizes** are an instrument for employee participation in the designation and development of sustainability measures at DLR. In 2021, this included the [DLR IDEA Award](#) for a 'Green construction site – carbon-free production'.

This creates an additional incentive for employees and researchers to develop ideas to improve DLR's sustainability profile and research work. Incentives for greater sustainability are also being created in the development of institutes, with increased focus on life cycle assessment when implementing research projects in programme-oriented funding. DLR.wiki is available to all DLR employees and provides a platform for lively exchange. Ideas can be submitted and discussed there. There is a designated space for discussing sustainability in relation to an array of areas. All kinds of topics and ideas for improving sustainable living and working can be discussed here, such as more sustainable mobility for employees who commute and the application of sustainability criteria for business trips. Moreover, the platform is not only used for exchange between employees; it also serves as a channel for ongoing suggestions for improvement from staff.

### Performance indicators for Criterion 8

Performance indicator GRI SRS-102 35:

#### Remuneration policies

The remuneration policy is regulated by the Collective Agreement for Civil Service Employees (Entgeltordnung des Tarifvertrags für den öffentlichen Dienst des Bundes, TVöD Bund). Non-payscale remuneration for elements of the top management is published in the General Federal Gazette. The remuneration structures for the reporting year can be found in the [Federal Gazette under 'Report on the remuneration of the Executive Board in the 2021 financial year at Deutsches Zentrum für Luft- und Raumfahrt e.V.'](#).

Performance indicator GRI SRS-102-38: Annual total remuneration ratio.

The ratio of the total annual remuneration is not recorded due to the fact that DLR is bound by the TVöD Bund.

## 9. STAKEHOLDER INVOLVEMENT

The Sustainability Department and the DLR Sustainability Report are part of the 'Subsystem of Board-Related Activities' (TSVO), which forms part of the management subsystem. In 2019, a process for the systematic analysis of stakeholders at the process level was successfully developed and implemented within the TSVO. No significant changes were identified for the current reporting year. For the 'Create a sustainability report' process, stakeholders were first designated to the person responsible for the process, before their **interests, characteristics and intentions were collated and appraised through interviews and role plays**. The result of the survey of the relevant stakeholders from all processes in the TSVO was presented to and discussed with the Executive Board and subsequently communicated to all employees in DLR's own TSVO newsletter. The key stakeholders for sustainability are:

#### Internal:

- Sustainability Core Team
- Employees
- Programme managers for DLR's key areas of research.

#### External:

- Federal Ministry for Economic Affairs and Climate Action (BMWK),
- Federal Ministry of Education and Research,
- Other research organisations,
- Helmholtz Association,
- Companies,
- Civil society organisations.

The following formats were used:

#### Regular information and exchange formats:

- Management discussions with the funding body
- Reports in the Supervisory Board
- Staff meetings,
- Events/lectures at the Bundestag/state parliaments

#### Options for specific events:

- Presentation of DLR to the public,
- Collaboration with and participation in scientific forums,
- Presentation of DLR at forums of business and industry,
- Online survey of stakeholders on key areas of action at DLR, with the option of adding additional sustainability topics as additional text.

The individual, existing dialogue formats with stakeholders were continued and in some cases expanded: for example, the involvement of internal stakeholders in the sustainability process was further expanded and systematised during the reporting period. In addition to regular core team meetings – also online – in which, for example, DLR's vision and mission were discussed, the site developments or coordinators based there were integrated into the sustainability process through a jour-fix. This is particularly important, as it gives employees a fixed contact person for the topic of sustainability and also makes it possible to communicate relevant topics in and from the sites in an orderly manner. A further systematisation and formalisation of the stakeholder dialogue has not yet taken place, but is scheduled for 2023.



## Performance indicators for Criterion 9

Performance indicator GRI SRS-102-44:

### Key topics and concerns raised

Due to the pandemic, not all the planned dialogue formats could be implemented in 2020/21. However, some were able to be continued online or in hybrid formats with the stakeholders listed below. Communications relating to this can be found on DLR's website and social media channels (YouTube, Vimeo, Instagram, Facebook, X (formerly Twitter)).

### Stakeholders involved in 2020/2021:

#### Internal:

Core Sustainability Team,  
Employees,  
Programme Coordinators.

#### External:

Federal Ministry for Economic Affairs and Energy (currently the Federal Ministry for Economic Affairs and Climate Action),  
Federal Ministry for Education and Research,  
other research institutions,  
The Helmholtz Association, including the [Helmholtz Sustainability Summit 2021](#),  
companies, and civil society organisations

### Communication formats used and topics addressed in 2020/2021:

#### Information and exchange formats:

- Management discussions with the funding body,
- Reports in the Supervisory Board,

- Works meeting with staff on the topics of human resources development, general development and updates on the locations and status of construction
- Works council meeting on the topics of sustainability, e-mobility and carbon offsetting,
- Events/lectures at the Bundestag/state parliaments

#### Options for specific events:

- Presentation of DLR to the public, site and delegation visits with themes such as low-carbon industrial processes, data life cycle, solar power system for maritime infrastructure, particle measurement vehicles for pollutants in the air and much more.,
- Scientific forums,
- Presentation of DLR at forums of business and industry,
- Online survey of stakeholders on key areas of action at DLR in 2019, with the option of adding additional sustainability topics. The following three themes were identified: Social value creation (2–3); SDG 17: Partnerships for the goals (2–3); SDG 4: Quality education (e.g. advanced training for MA, compatibility of work and studies).

As DLR, we use the communication formats and associated topics to present the research content and results and make them available to the public. They are also used to optimise our processes and achieve stakeholder satisfaction. The communication formats are also important for our further development through dialogue with stakeholders. (For details see DNK criteria 5, 10, 12, 14-16, 18-20).

## 10. INNOVATION AND PRODUCT MANAGEMENT

As a leading German research institution for aeronautics, space, energy and transport with the cross-cutting themes of security and digitalisation, we at DLR **are strengthening the innovative power, future viability and competitiveness of the German economy.**

DLR's **research and development** activities are aimed at economic application primarily in its core areas of responsibility. In addition to the scientific focus, DLR also aligns its research and development work with the challenges facing society, and specifically with sustainability requirements. In this way, we are continuously striving to preserve Germany's innovative strength and economic power, together with prosperity and quality of life in the country. As such, innovation and transfer are integral parts of research at DLR. This brings together expertise from all areas. Processes and the research culture are designed to be transfer-friendly. Our researchers deliver quality results in research, primed for economic implementation and application-oriented innovation. Transfer via research cooperation, contract research, provision of infrastructure, intellectual property rights, spin-offs and highly qualified people is a constant at DLR.

The **Executive Board Division for Innovation, Transfer and Research Infrastructures** sees its role as establishing mechanisms to align research activities with utilisation potential and to achieve, design and highlight transfer successes. This success goes beyond mere figures; it also provides a cultural and structural impetus to think about innovation in science as a matter of course.

**Achievements in sustainability** are promoted through innovation processes at DLR. For example, sustainability goals run through our ideas management process when evaluating innovation ideas and project outlines in technology marketing. We are continuously working towards SDG 9 (Industry, innovation and infrastructure) with the help of our innovation process.



DLR also runs an **in-house suggestion scheme (BVW)** and the **DLR CIP (Continuous Improvement Process)**. These instruments focus on the implementation of ideas, with a focus on sustainable action. In 2021, the CIP received four proposals for energy, three for health protection, ten for sustainability and six for environmental protection. In some cases, these may touch on two areas, such as sustainability and energy.

Since its introduction in 2019, around 26 percent of the topics raised in the DLR CIP have addressed health protection, environmental protection, occupational safety and energy and sustainability.

### Performance indicators for Criterion 10

Performance indicator GRI G4-FS11:

*Percentage of assets subject to positive and negative environmental or social screening*

DLR does not own shares or any other type of financial assets, so it does not report on this performance indicator.



CRITERIA 11–20:  
SUSTAINABILITY ASPECTS  
ENVIRONMENT

## 11. USE OF NATURAL RESOURCES

DLR is continuously growing. More and more institutes and locations have been established over recent years. In 2021, DLR had 33 locations in Germany and one in Almeria (Spain), as well as offices in Tokyo, Washington D.C., Brussels and Paris. This growth leads to an increased use of natural resources. The **land use** of the eight largest locations alone (Braunschweig, Göttingen, Berlin-Adlershof, Cologne, Stuttgart, Lampoldshausen, Oberpfaffenhofen and Bonner Bogen) amounts to 370,191 square metres. The land use of the other locations is not yet available in a verified form.

Other **natural resources are used for research and administration**. These include energy and fuel for research facilities (such as energy storage test facilities, test stands, materials and design research facilities, research vehicles and platforms, simulators, receiving stations and

high-performance computers) and aircraft (hydrogen, kerosene and other fuels and special gases).

The following are used to operate the sites and general infrastructure: electricity from hydropower, oil, natural gas, district heating and cooling, and industrial gases and fuels. The corresponding consumption data for drinking water, waste water, electricity, gas, heating oil, district heating, petrol, diesel and waste can be found in the associated GSC performance indicators for criteria 11–13.

Other materials and resource consumption are currently not recorded in terms of sustainability management. **Pilot projects are planned for the future**, which will provide a detailed analysis of the consumption of resources and materials for various sub-areas.

## 12. RESOURCE MANAGEMENT

Our **objectives** in terms of resource efficiency are largely of an operational nature and linked to specific measures. DLR is looking to improve the **transparency of the measurement data and create a comprehensive measurement infrastructure** to record the current state of affairs more precisely and collect the basic data more comprehensively. In this way, it will be possible to record resource consumption in greater detail and make it more readily available through digitalisation.

In 2021, this was successfully achieved in the area of **mobility data**, with journeys made using rental cars being recorded in addition to business trips by air and rail. Based on a mobility survey, the consumption of resources from employees' commutes was also calculated in a rudimentary manner. This data can be found in the DLR Footprint for 2021. Recording of **water and waste generation data** is planned for the 2023 reporting year.

Another objective is to **expand the metering infrastructure across the board and complete the energy management system at all DLR sites**. Further energy efficiency measures will subsequently be derived therefrom. A quantitative goal of the EMS, which was certified according to DIN EN ISO 50001 in 2019, is to **reduce DLR's overall energy consumption by 10 percent by 2025, compared to the base year of 2016**.

In 2021, DLR achieved an efficiency increase of 12.94 percent, exceeding the target by almost 3 percent.

The ISO 50001-certified energy management system allowed energy consumption to be recorded more precisely overall. This led to increased transparency in the event of discrepancies. In addition, it will enable DLR's carbon footprint to be calculated and presented more precisely in future. For 2021, carbon dioxide emissions from business trips were determined for journeys made by both

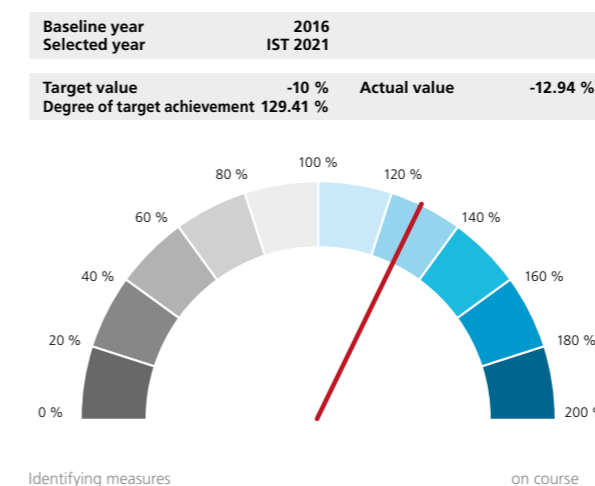
aeroplane and rental cars. In 2021, DLR offset business travel via the external service provider atmosfair. Nevertheless, DLR primarily follows the approach of avoiding and reducing emissions, with offsetting only as a last resort.

The **Works Agreement on Mobile Working** was passed at DLR in response to the changes caused by the pandemic. The agreement aims to reduce emissions from commuting. After consultation with their line manager, employees are allowed to work from home for up to 80 percent of their working time, if their job allows it. In the future, this will also have an impact on the use of space, as it increasingly opens the way for hot-desking and thus a reduction in the required office space. The aim is to reduce the space required for offices by around 25 percent.

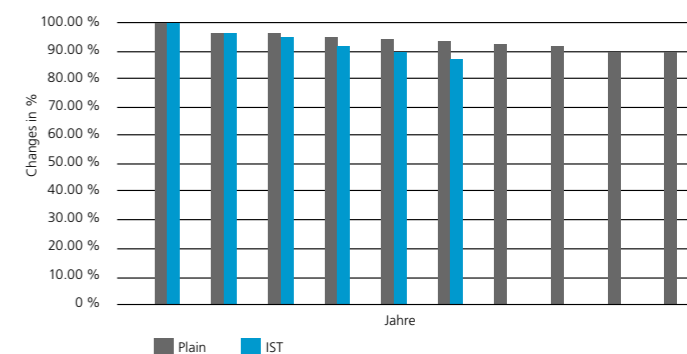
Another objective was to introduce an **energy management system (EMS)** in 2021. However, this was not completed as planned and should be implemented by the **end of 2023**. From 2023, DLR has undertaken the task of certifying new buildings with an investment sum of more than six million euros through the Sustainable Building evaluation system, aiming at the Silver quality level as a minimum. This is likely to have a positive influence on future resource consumption in the area of building and infrastructure.

DLR also endeavours to optimise the use of resources; for instance, electricity is obtained from renewable energy sources. The **internal expansion of renewable energies for electricity self-supply** will be advanced with a photovoltaic project, including an evaluation of roof surfaces to determine the suitability for the placement of photovoltaic systems. Suitable DLR sites will also be **surveyed for the possibility of regenerative heat supply**. An **integrated management system** (environmental management, energy management, quality management, occupational safety, sustainability management) was fully certified at

### EnPI – Energy Performance Indicator Total EnPI development and status



EMB, TI-GSS-BA, 12.12.2022



The strategic goal is to achieve a specific total energy saving of 10 percent by 2025. After weighting the organisational EnPIs, the current status shows an efficiency increase of **12.94 percent**. Due to the multiple impacts resulting from the Coronavirus pandemic, further development should be monitored before adjusting the target and the baseline.

the Lampoldshausen site in 2004. Quality, environmental protection and occupational safety were combined into one system for the first time and successfully audited. Since then, DLR has continued along the same path, incorporating the requirements of the environmental standard into its processes. When the new ISO standard DIN EN 14001 was issued in 2015, DLR adapted its systems to it. In 2018, the DLR Projektträger in Bonn was also audited and the environmental standard embedded within an integrated system. These management systems, which were already integrated at the time, continue to be the models for the DLR-wide integrated management system.

The integrated management system at DLR has set a number of objectives that are to be pursued and implemented over the next few years. This includes an organisational merger

of environmental management with quality management to achieve three objectives:

- Gaining greater benefit from unified standards
- Offering EMS services, including sustainability processes, more strongly within the subsystems of DLR's institutes and facilities
- Jointly setting management standards.

We plan to **offer training courses covering environmental management for specific target groups**, such as managers, trainees or operators of plants and laboratories.

EMS content should be addressed in **internal audits** in order to increase awareness of these issues.

From late 2023, **software support** will be included to allow the environmental indicators from environmental status data (ECI), environmental performance data (OPI) and environmental management data (MPI) to be determined more easily and presented more transparently.

To provide better information, a **regular newsletter** will be issued, addressing environmental protection, environmental management and related topics such as climate, nature and energy.

The interaction between environmental management and energy management makes it possible to comprehensively monitor environmental impacts at DLR.

**Risks** to ecosystems arising from DLR's business activities or from the consumption of natural resources have not yet been systematically determined as part of the aforementioned risk management and are therefore unknown (see GSC Criterion 6, Rules and Processes).


### Performance indicators for criteria 11 and 12


*Performance indicator GRI SRS-301-1:  
Materials used by weight or volume*


The materials required for our specific value-added process as a research and development organisation are recorded in SAP according to product groups. In this regard, purchasing is highly diverse due to the nature of DLR as a research organisation that creates knowledge and not products, and far too often depends on individual purchasing decisions. For this reason, DLR's materials and purchased services have not yet been sub-divided according to sustainability criteria (for example, non-renewable and renewable materials). However, purchasing at DLR is structured on the basis of its process profile, taking account of the principles


and rules, ensuring quality-assured output and using the internal Guidelines for Sustainable Procurement.


*Performance indicator GRI SRS-302-1:  
Energy consumption with the organisation*


 **Electricity in MWh**  
2021: 72,843.31 (2020: 67,313.51)


 **Gas in MWh**  
2021: 43,648.74 (2020: 31,881.22)

 **Heating oil in MWh**  
2021: 2868.41 (2020: 4670.64)

 **District heating in MWh**  
2021: 21,660.85 (2020: 20,548.92)

 **District cooling in MWh**  
2021: 4411.82 (2020: 4096.23)

 **Petrol:**  
2021: 73.922 MWh (2020: 41.278)

 **Diesel:**  
2021: 256.607 MWh (2020: 315.433)

*Performance indicator GRI SRS-302-4:  
Reduction of energy consumption*

Energy management at DLR was certified according to DIN ISO 50 001 in 2019. This has improved the availability of consumption figures considerably. In addition to the general **energy saving target of reducing total consumption by 10 percent by 2025 and specific energy consumption by 12 percent compared to the base year of 2016**, energy upgrading measures and a

switch to alternative energy sources can also be examined and implemented more effectively.

Efficiency measures have also been implemented, but have not yet been fully evaluated. Due to the exceptional conditions in the reporting year (Covid-19, growth, etc.) and certain gaps in the measurement technology for energy consumption, evaluating efficiency was not possible across the board. Action management (identification, initiation, monitoring, evaluation) will be intensified.

Conversions for heating energy are based on the following sources:

For the heating values, we used data from the listing on Wikipedia and from the Helmholtz Association. In most of the diagrams and other DLR publications, the source is shown in small print.

*Performance indicator GRI SRS-303-3:  
Water withdrawal*

This performance indicator could not be collected for the year 2021 due to insufficient data. This is planned for the follow-up report for at least the eight largest DLR sites.

*Performance indicator GRI SRS-306-3 (2020):  
Waste generated*

This performance indicator could not be recorded for 2021 due to insufficient data. This is planned for the follow-up report for at least the eight largest DLR sites.



# 13. CLIMATE-RELEVANT EMISSIONS

As sustainability management at DLR is still in the start-up phase, a detailed breakdown of all greenhouse gas emissions has not yet been produced. However, the proportion of carbon dioxide emissions can be presented.

### The most important sources of CO<sub>2</sub> are:

- Fuels for heating purposes and district and local heating
- Fuels for aircraft and research facilities
- District cooling
- Travel (rail, air, rental cars)

The **most important objective** is to **improve the availability of data in order to determine climate-relevant emissions**. During the reporting period, DLR took another step in this direction by expanding the energy management system to other locations. Energy consumption for the reporting period was also recorded in greater detail.

DLR has a very high electricity and heat requirement due to its research and administration activities. Since 2016, it has therefore made significant progress in obtaining electricity from renewable sources. At present, only four locations (out of 33) are not supplied with electricity from renewable sources. **The goal is to be able to supply DLR with renewable energy across the board in the coming years.** In addition, DLR generates its own electricity in a combined heat and power plant and a small photovoltaic system at the Cologne site. For the next year, a project is underway to examine the potential of roof surfaces across DLR sites to examine their suitability for the installation of PV systems. This is aimed at increasing the proportion of renewable energy used and becoming more self-sufficient by generating our own electricity.

Emissions from business trips were recorded in finer detail. In addition to the carbon dioxide data of work-related

travel by air, it was possible to record emissions from travel by rental car for the first time. Our train travel has been made climate neutral in cooperation with bahn.business.

In 2022, DLR also achieved the objective of retroactively offsetting the emissions generated during work-related travel in 2021. DLR selected offsetting projects that meet the requirements of the gold-standard certified emission reductions according to the Swiss Gold Standard Foundation and the Clean Development Mechanism (CDM) of the United Nations Climate Convention. Through these projects and other approaches, DLR will launch information campaigns that encourage carbon avoidance and reductions during business trips and work-related journeys. In the coming years, offsetting payments will no longer be

atmosfair

**Steckbrief Kleinbiogasanlagen in Nepal**



Land	Nepal (LDC)
Projekttyp	Small Scale Programme of Activities (PoA) mit CO <sub>2</sub> -Einsparungen pro Jahr und Teilprojekt (CPA) von maximal 80.000 Tonnen
Zielgruppe	Haushalte in ganz Nepal
CO <sub>2</sub> -Minderungen	Ca. 480.000 t CO <sub>2</sub> jährlich (alle CPAs)
Technologietransfer	Haushaltsbiogasanlagen mit einer Größe von 2 bis 10 Kubikmetern.
Lokale Umwelt	Vermeidung von Abholzung in der Region, Reduktion der Raumluftverschmutzung und der Entwaldung
Weitere Vorteile	Reizbare und dezentrale Energiequelle insbesondere für ärmere

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Registrierverwaltung des Mitgliedstaates Deutschland

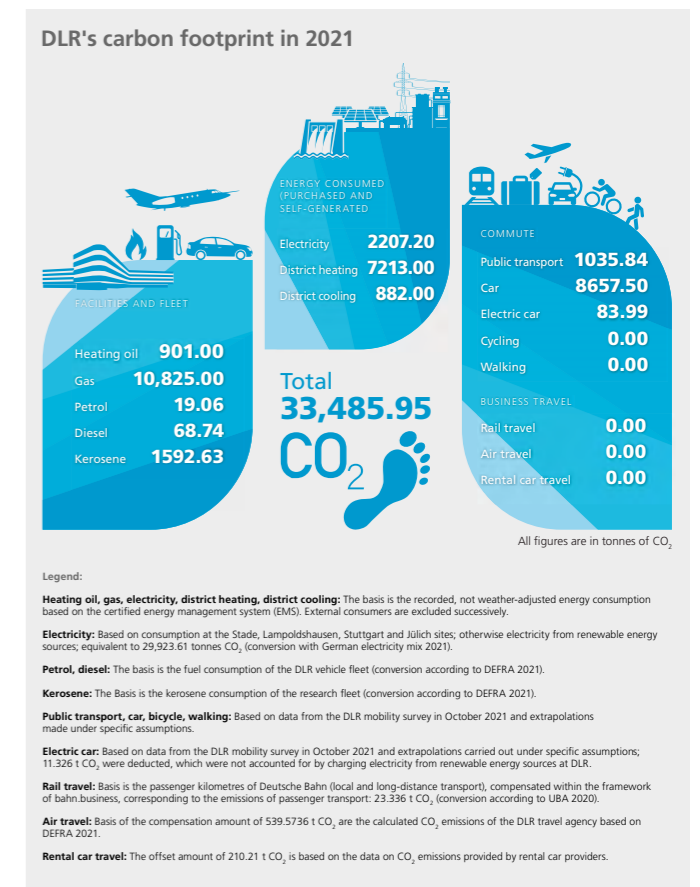
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Letzte Aktualisierung	10/06/2022 17:16 CEST
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Einheiten-Typ	Projekt-Nr.
CER	NP9572
	Berechtigung zum Halten im EU-ETS Zugelassen im EU-ETS
	Anzahl 375

made centrally by DLR, but by the facility responsible for the emissions.

In addition, CO<sub>2</sub> emissions from DLR staff commutes were calculated for the first time based on a 2021 mobility survey among employees. The emissions were determined from the results using the distance to work and the various means of transport (public transport, car, electric car, bicycle, electric bike, on foot). Measures to reduce emissions in this area are in the initial stages. Employer subsidies for job tickets and the stipulations of the Works Agreement on Mobile Working, aimed at increased working from home, have proven particularly effective. In addition, DLR is setting up a charging infrastructure for electric vehicles so that employees can commute to work using electricity from renewable sources. Another objective is to install charging stations for e-bikes.

No other objectives have been set out so far, as these will be linked to the introduction of a sustainability strategy and the associated consolidation of sustainability management.

It should be noted that travel activities, and also other sources of emissions, have been greatly reduced in recent years due to the COVID-19 pandemic. So, while efficiency measures have been implemented, they could not be fully evaluated. In addition, data collection has been made more problematic by the measurement techniques employed, which are still in the process of being developed. Within the context of the in-house management of these measurements, the identification, initiation, monitoring and evaluation processes should also be enhanced.



### Our calculations and reported emissions for Scope 1-3 are based on the following emission factors and other information:

- Travel:
  - Flying: Based on DEFRA evaluation (only two distance categories: up to 350 miles and > 350 miles)
  - Rental cars: Provider readings based on fuel consumption
  - Rail: offset via bahn.business
- Electricity: Stadtwerke Magdeburg green electricity: Proof of origin (Tonstad/Norway, Salzburg & Fusch an der Glocknerstrasse/Austria), other sites: Lampoldshausen and Stuttgart CHP factor 183 g/kWh; Dresden and Bremen green electricity, Stadel German electricity mix, Jülich electricity mix of the provider's portfolio 237 g/kWh
- DLR vehicle fleet for diesel and petrol: DEFRA 2021,
- Research fleet: Kerosene consumption DEFRA 2021
- Commuting: Based on 2021 staff mobility survey (public transport according to UBA; cars according to DEFRA 2021 and BMVI).

## CRITERIA 11–20: SUSTAINABILITY ASPECTS SOCIETY

### Performance indicators for Criterion 13

Performance indicator GRI SRS-305-1

(see GH-EN15): Direct greenhouse gas emissions (Scope 1)

#### Emissions in tonnes of CO<sub>2</sub> (2021):

Heating oil:	901.00
Gas:	10,825.00
Petrol:	19.06
Diesel:	68.74
Kerosene:	1592.63

Performance indicator GRI SRS-305-2: Energy indirect greenhouse gas emissions (Scope 2).

#### Electricity

2021: 2,207.2 t CO<sub>2</sub> (72,843.31 MWh);

(Sources of emissions: Stade site: German electricity mix; Lampoldshausen and Stuttgart: provider-specific information on the combined heat and power units (CHP); CHP Stuttgart (183g/kWh); Jülich: Electricity mix of the provider's portfolio; Remaining locations: Electricity from renewable sources via Stadtwerke Magdeburg: Proof of origin (Tonstad/Norway, Salzburg & Fusch an der Glocknerstraße/Austria); Free State of Saxony and University of Bremen: According to UBA, corresponds to the German electricity mix 2021 420 g/CO<sub>2</sub> corresponds to 29,923.614 t CO<sub>2</sub>)

#### District heating

2021: 7,213 t CO<sub>2</sub> (21,660.85 MWh)

#### District cooling

2021: 882 t CO<sub>2</sub> (4,411.82 MWh)

Performance indicator GRI SRS-305-3:

Other indirect greenhouse gas emissions (Scope 3)

Emissions from commuting have been reported for the first time within Scope 3 emissions, along with emissions from business trips. Two key sources of Scope 3 emissions have already been recorded. Other relevant Scope 3 emissions have yet to be determined by DLR.

Tonnes of CO<sub>2</sub> from business trips by DLR employees in 2021:

- Flights: 539.57
- Rental cars: 210.21
- Rail journeys with bahn.business: 0 (with German electricity mix: 23.336 t/CO<sub>2</sub>)

Tonnes of CO<sub>2</sub> from commuting (basic data from the DLR mobility survey in October 2021 and projections made according to specific assumptions):

- Public transport: 1035.84
- Cars: 8657.5
- Electric cars: 83.99 (basic data from the DLR mobility survey in October 2021 according to the German electricity mix; an additional 11.326 t/CO<sub>2</sub> are not covered by charging green electricity at DLR in Cologne)
- Bicycle: 0
- E-bike: 1.2
- Walking: 0

Performance indicator GRI SRS-305-5:

Reduction of greenhouse gas emissions

At present, it is not yet possible to report on reduction in greenhouse gas emissions, as DLR is still compiling the relevant information.

## 14. EMPLOYEE RIGHTS

Conducting international activities as a research institution requires worldwide partnerships and working within an international context. A focus on export controls is particularly important in order to ensure compliance with the regulations of the Federal Republic of Germany, the European Union and the United States of America, which may come into play in collaborations with the European Space Agency (ESA) and the US space agency NASA. The **DLR export control system** was highlighted in 2017 at an event organised by the Federal Office for Economic Affairs and Export Control (BAFA) as a leading example of export control within the German and European research landscape.

The German Aerospace Center has an **institution-based agreement** based on the Tarifvertrags für den öffentlichen Dienst des Bundes (TVöD Bund; Collective Agreement for Public Service). This regulates specific aspects of DLR, including the working hours of pilots and regulations that deviate from the TVöD regarding on-call duty, overtime, working hours, rotating shift allowance and much more.

Currently, some 23 local **works councils** and one general works council (GWC) are responsible for co-determination under the Works Constitution Act. Over 10,500 employees across Germany are represented in this way, and the rights of the trade unions are fully protected in this system. Scientific co-determination takes place via the **Scientific-Technical Advisory Council (WTR)**.

Sustainability and health management are regulated by various company agreements and dealt with in **working groups**. This covers topics like subsidising job tickets, e-mobility and PV systems at DLR buildings.

Statutory co-determination is maintained by means of enforceable and voluntary company agreements. Despite

major differences between the company parties, for instance, it was possible to conclude company agreements on mobile working for almost all companies.

Meetings are held every two weeks with the **Executive Board** (once a quarter) and with the **Human Resources** department. Furthermore, the Executive Board has to submit an **employer's report** annually to the works council meeting. This is done by the Chair of the Executive Board and their **deputy**.

There are three types of **works agreements**: general works agreements that apply to all DLR employees; mandated general works agreements that apply specifically to sites that have mandated the GWA; and local works agreements that apply only at the respective sites. Some of the individual documents contain built-in evaluations, which may take place annually or every three years.

The General Works Council (GWC) is made up of GWC members delegated from the local works councils. Like the local works councils, they are elected every four years. There are no internal test procedures of the sort implemented in permanent divisions of DLR.

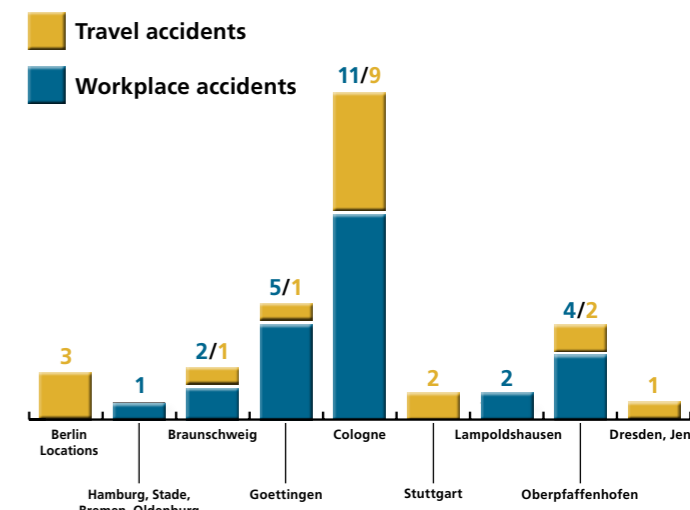
Another feature of employee rights: Since 2014, we have also been pursuing a **sustainable, value-oriented human resources** policy that focuses on the following aspects: **Equal opportunities, leadership and cooperation, personnel development, performance orientation, internationality and career paths**, including in relation to employees on temporary contracts. DLR's personnel policy has been approved by the Executive Board in coordination with managers and works councils and forms the framework for the relationship between DLR and its employees. All employees can access this on the intranet as part of the organisational handbook.

Risk assessment is an essential instrument for improving employee conditions in terms of **occupational safety**. Raising employee awareness, which is considered highly important, is also carried out as part of communicating the necessary occupational health and safety measures. All DLR employees can play an active role in ensuring that the number of accidents continues to fall and job satisfaction increases. DLR managers receive regular training in this. In addition, there are voluntary and site-specific mandatory training courses on occupational health and safety.

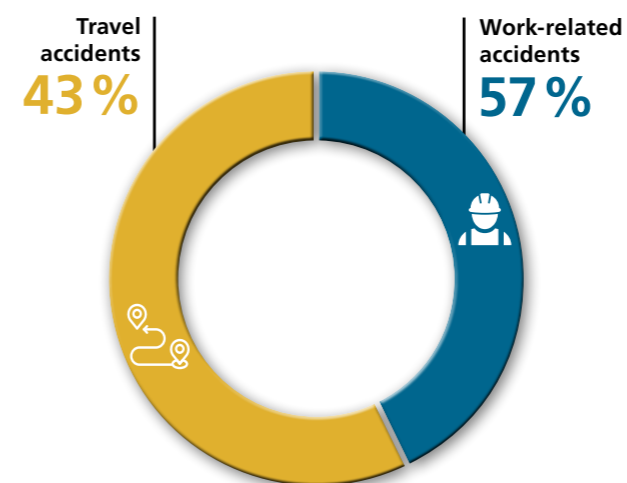
**Involving our staff** is key to introducing successful sustainability management at DLR, which is why there are numerous working groups focused on sustainability at DLR. They maintain contact with the regional coordinators for sustainability and exchange views on current topics with the Coordinator for Sustainability monthly. By fostering networking and exchange on various company intranet sites, DLR offers everyone a platform to actively engage and contribute to topics like sustainability.

It held a knowledge exchange workshop in 2021 on the theme of 'DLR for the future', where many employees

### DISTRIBUTION OF ACCIDENTS BY SITE IN 2021



### PROPORTION OF WORKPLACE ACCIDENTS TO TRAVEL ACCIDENTS 2021



came together to discuss topics such as mobility and procurement. The results were subsequently discussed and taken forward with the Sustainability Officer.

In addition to opportunities, the general works council acknowledges a number of **risks** in relation to employee matters. Outsourcing is a difficult subject, and is often associated with job cuts. It means losing knowledge and also stirs up fears among the workforce that they may be affected against their will. The economic savings are often misjudged. The increased effort involved in reintegrating an outsourced activity can also prove detrimental.

We acknowledge that successive limited-term contracts pose certain risks and disadvantages to our employees' rights. Even under recognition of DLR's scientific training mandate, works councils have identified abuse in certain institutes and facilities. Scientific qualification is regulated as per the qualification phases in the Science and Research Act governing Fixed-Term Contracts (Wissenschaftszeitvertragsgesetz, WissZeitVG). Unfortunately, the concept of

qualification enshrined in the law is not defined in greater detail, so many other activities may count as qualifications in addition to dissertations and qualifications for teaching careers in higher education. This will become stricter as part of the planned evaluation of the WissZeitVG. However, possible fixed-term contracts with a concrete rationale also have their drawbacks, as they theoretically allow for the possibility of setting down project time limits all the way up to retirement. These time limits are sometimes used to limit staff to specific projects, although their actual tasks contribute to various projects, so that it is actually an ongoing job. In this case, the works councils call for the maxim of 'permanent positions for ongoing jobs' to be observed. Yet even in non-research roles, the Part-time and Fixed-Term Employment Act (Teilzeitbefristungsgesetz, TzBfG) makes it possible to hire employees for a limited period of two years without cause. This is often used as an extended probationary period. Works councils are calling for the abolishment of unfounded fixed terms based on the TzBfG.

In addition to the social risks for temporary employees, this also entails serious disadvantages for DLR. With every individual who leaves, DLR loses a large part of the knowledge it has gained. No amount of knowledge transfer, no matter how thorough, can compensate for this. The time over which fixed-term employees perform their full work is invariably short due to the induction period and potentially

finding another job. In the case of a contract limited to three years, this can mean that the employee is only working at full capacity for one year. It is questionable whether this is economical.

Fixed-term employees are also often more reluctant to express criticism or apply for volunteer work, as this can have a negative impact on having their contract extended.

The legislature is called upon to make adjustments in many areas, especially with regard to the existing shortage of skilled workers. However, the employer must also ensure that appropriate terms and qualification goals are achieved if qualifications are limited. Time limits need to be handled responsibly. Furthermore, the main risks to DLR at present include significant threats to the economic or financial situation. **Risk management**, which is conducted independently of sustainability management, is responsible for this (see German Sustainability Code Criterion 6, Rules and Processes).

With regard to the issue of employer rights, DLR does not currently set any further goals, as all legally protected employee rights are observed within the framework of the general compliance requirements (see German Sustainability Code Criterion 20. Conduct that complies with the Law and Policy).

## 15. EQUAL OPPORTUNITIES

Our **long-term goal** is to create a non-discriminatory, unprejudiced working environment. This includes ensuring **equal opportunities for all employees, promoting gender equality and supporting a good work-life balance**. This is enshrined in the [DLR Guidelines](#). Another equally important goal is to **constantly increase the proportion of women in science and management**. To this end, we have set target quotas for research areas based on the cascade model. These were evaluated on 31 December 2020. The target figures were achieved or almost achieved at almost all career stages. We then defined new, ambitious target quotas for the 2021–2025 period.

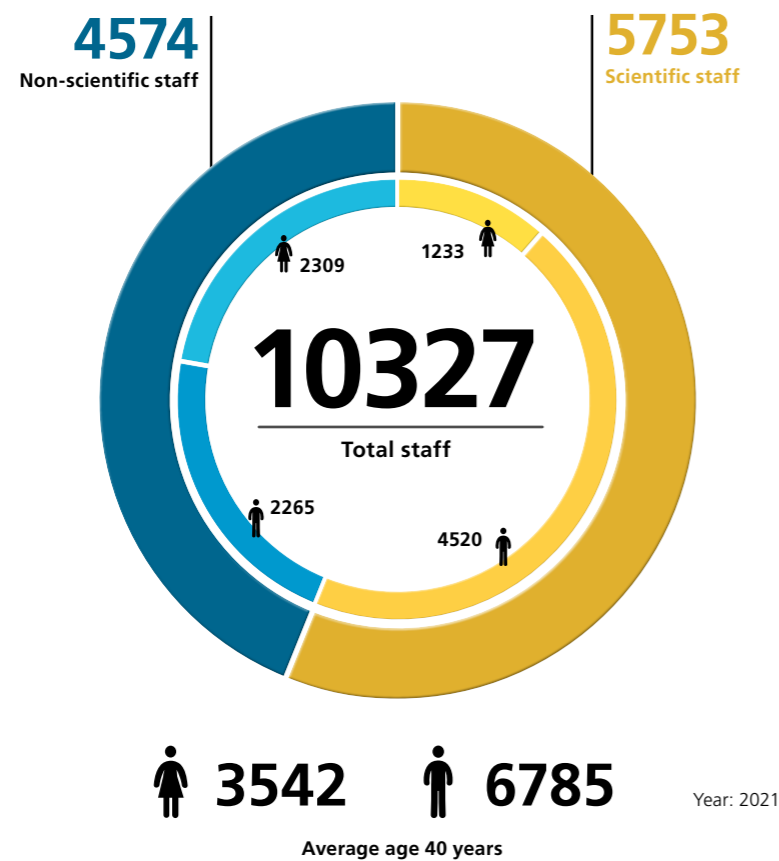
Extract from the cascade model

		PROPORTION OF WOMEN (%)	
		Current 31.12.2021	Expected 31.12.2025
MANAGEMENT LEVEL	Management	40	25
	First management level	9	12
	Second management level	17	19
	Third management level	15	16
	Management of independent research and junior research groups/research areas	0	0
SALARY SCALE	W3/C4	11	17
	W2/C3	16	19
	C2	0	33
	W1	14	14
	E15 Ü TVöD/TV-L, ATB, S (B2, B3)	11	13
	E15 TVöD/TV-L	26	27
	E14 TVöD/TV-L	24	30
E13 TVöD/TV-L	40	25	

We are pursuing a wide variety of **measures and strategies** to implement these goals at DLR.

These include:

- Life-phase-oriented HR management
- Compliance with the General Equal Treatment Act (Allgemeines Gleichbehandlungsgesetz, AGG) and the principles of the Federal Equal Opportunities Act (Bundesgleichstellungsgesetz, BGleG)
- Re-election of the Equal Opportunities Officer and Deputy in 2021
- Conclusion of the Agreement on Promoting Equality (Vereinbarung zur Förderung der Gleichstellung, 2021) to ensure compliance with the principles of the BGleG,
- Annual internal publication of the DLR Diversity Data Report (development of the employee structure over the last two years)
- Implementation of the [Helmholtz Association Guidelines on Diversity and Inclusion, 2020](#)
- Guidelines on Gender-Sensitive Language at DLR (including gender-sensitive job advertisements)
- Established concept for the prevention of sexual harassment in the workplace
- New workshop series – 'DLR\_ChancenReich: Initiative for female careers (and more)' – targeted at female scientists, with the involvement of members of the Executive Board
- Promotion of employee networks, such as women's networks



- Comprehensive information portal ('Rainbow Portal') on the DLR.Wiki on the subject of gender diversity and sexual orientation
- Welcome Guide for foreign applicants/new employees from abroad: 'Living and working in Germany and DLR'
- Support with balancing work and family life; DLR has a separate family advice centre. There are around 90 reserved childcare places for children under the age of three, a contract with an external partner (advice and placement services for childcare), virtual childcare offers during the pandemic, holiday care for schoolchildren at major DLR sites, and an extensive range of training courses (for example, on anti-racism, care, work-life balance and raising managerial

awareness, including unconscious bias), works agreements on mobile working/teleworking and flexible working time and work location models. The established measures to improve the balance between work and family life were examined by berufundfamilie Service GmbH in 2020, and the berufundfamilie audit rating was reaffirmed for another three years.

- As the remuneration of DLR employees is based on the payscale as per the Tarifvertrags für den öffentlichen Dienst des Bundes (TVöD Bund; Collective Agreement for Public Service), the salary for the same function in the job description is the same regardless of gender.

## 16. QUALIFICATIONS

To fulfil its mission, the administrative infrastructure offers **integrated, systematic and modern HR and organisational development** across DLR. DLR's Human Resources and Organisational Development department promotes the performance and development potential of managers, employees, specific target groups, teams and organisational units in a needs-based manner. It fosters employees' technical, methodological, social and personal skills through a broad personnel development and course programme. Through various instruments, it ensures that all of the key characteristics are retained, while also promoting motivation and job satisfaction among employees.

Through **timely, comprehensive qualification**, DLR's Human Resources and Organisational Development department prepares employees, junior managers and executives for new requirements during their time at DLR and beyond, whether individually or as teams, institutes or facilities. In doing so, it dovetails DLR's strategy and the institute and facility goals with the development needs of employees, thus fulfilling DLR's overall mission.

The Human Resources and Organisational Development department also makes a significant contribution towards **cultural development and increasing DLR's appeal as an employer**. Successful personal development is a vital duty of all managers at DLR.

The topics and content covered by the courses, seminars and measures are tailored to the actual needs of employees, managers and organisational units or institutes at DLR.

Four procedures are primarily used for **needs analysis** at DLR:

- Systematic needs analysis at the second and third management levels within the framework of semi-structured discussions to identify strategic personnel and organisational development needs.
- Structured appraisal interviews (according to separate works agreements), in which the qualification requirements for the job are aligned with the employee's individual development needs and potential.
- Managers and employees report their qualification requirements or that of their employees directly to the responsible human resources development unit.
- The funding bodies, the Executive Board and the central process managers define focal points for strategic HR development (e.g. standards for project management, work-life balance, management via target agreements), which are incorporated into the HR development programmes.

In addition to these forms of needs analysis, **standard seminars** are advertised as part of the annually redesigned HR development programme. The seminars defined as standard are based on participation rates from previous years.

All courses, training sessions, workshops and coaching sessions are evaluated immediately after completion using standardised instruments (course evaluation form). There are also further **evaluation procedures** for HR and organisational development measures, with a view to assessing efficiency and effectiveness following implementation.

## Measures

HR and Organisational Development generally advise all DLR institutes and facilities on instruments and measures for modern HR and organisational development. In addition, the department offers the following specific services:

- A cross-site human resources development programme (course programme) covering the key topics of communication and social skills, methodological skills, personal skills, project management, administration, law, business administration, compliance, quality management, scientific and technical topics, health, workshops for specific target groups and language, and IT training.
- Differentiated human resources development for managers (programme management and leadership) and mandatory courses for junior managers (programme qualification for executives), primarily related to methodological, social and personal skills and professional requirements.
- Management feedback aimed at optimising leadership and cooperation in individual organisational units using standardised instruments, systematic evaluation and moderated workshops. (A general works agreement that applies to all managers was negotiated in 2022, to be implemented by 2024).
- Project management: Range of workshops and training courses from beginners to professionals with the possibility of preparing for certification according to PMI.
- Coaching of managers, employees and small groups; professional advice from external coaches, such as for change processes or new requirements.
- Conflict moderation and mediation to resolve friction, tension and misunderstandings between individuals and teams.
- Organisational development through team workshops (for example, process and change management, strategy development and implementation, team development, leadership and cooperation, customised training workshops for teams) and more.
- Diagnostics and potential analysis, for example to facilitate the selection process of new employees.
- Induction and training of new employees.
- Transfer of knowledge and retention of skills from employees who leave the company: Advice on the process and instruments used when knowledge holders resign or leave key positions.
- E-learning, blended learning, webinars, and more: the Human Resources and Organisational Development department operates a learning management system to provide digital learning formats.
- Special IT training: Advice, concept consulting and support with implementation.
- Dialogue with the Executive Board: Organisation and implementation of the annual dialogue between the Executive Board and junior staff at DLR.

## Programmes for specific target groups

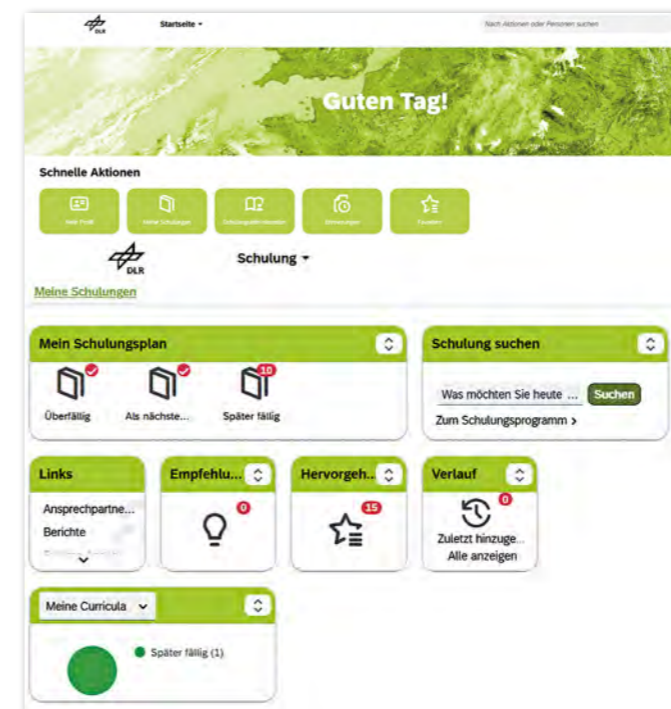
Human Resources and Organisational Development also offers development programmes for specific target groups:

- Mentoring: Experienced managers support younger junior executives in developing a wide range of skills while taking on higher-level positions or tasks with greater responsibility.
- DLR\_Graduate\_Program: Workshops, training courses and courses on methodological, management and social skills specially tailored to the needs of doctoral candidates.

- Talent Management Programme: A programme to identify, select, promote and retain DLR employees with outstanding skills so that they can later fill key positions in line with DLR's goals.

An important objective for Human Resources and Organisational Development was achieved in late 2020 with the implementation of the learning management system SAP SuccessFactors Module Learning, known internally as YODA (Your Own Development Access). The system offers all DLR employees access to the entire range of courses, further information and advice offered by Human Resources and Organisational Development, regardless of their location. Participant management is digitally mapped via YODA, including registration, approval and billing. This allows for independent learning, from preliminary information to registration.

During the Covid-19 pandemic, Human Resources and Organisational Development offered its services



almost exclusively online. More face-to-face courses are currently being added to the programme. In the future, the aim is to offer courses both in person and online, so as to meet participants' requests for flexible locations and improve resource efficiency by avoiding business trips.

Another aim is to expand the range of e-learning and hybrid learning offers. The focus is on statutory and/or mandatory DLR training, including on occupational safety and compliance.

In the next step, the learning management system will be expanded to include additional modules that will assist DLR managers with planning employee development and in terms of quality management. This will include documenting employee appraisals, incorporating a competency and value model for managers and recommending learning paths, including direct links to the corresponding courses offered in the system. Modules are also planned to support and expand upon collaborative forms of learning and working in the form of virtual work and chat (exchange) rooms on the learning management system.

## Competence and Value Model for Managers

The last few years have been particularly affected by changes in the environment as a result of Industry 4.0. This calls for new forms of work and employment relationships, characterised by digitalisation, networking and flexibility – in other words, by a Learning 4.0 culture. The effects on the world of work and learning prompt us to examine how environmental changes will impact DLR's management competencies, and to review their future viability again.



### Health at work: the mission and core competencies of DLR Health Management

DLR's Health Management department provides employees with a comprehensive range of services. Statistical surveys, targeted employee surveys and a meta-analysis of all surveys that touch upon job satisfaction provide the basis for DLR-wide interventions. These are geared towards optimising the physical, mental and social well-being of employees – DLR's greatest asset – as a prerequisite for job satisfaction, motivation and performance.

The strategic planning and implementation of health management is handled centrally by healthcare experts and aims to ensure quality, compliance, evaluation and sustainability. Besides sports courses, check-ups and vaccinations (such as the flu and Covid-19), it offers information and support for nutrition, preventing addiction, bullying, sexual harassment at work, and much more.

The Covid-19 pandemic deeply impacted 2020 and 2021. Health Management responded quickly to the situation by conducting an internal vaccination campaign, organising online fitness activities and providing support for those experiencing stress while working from home during lockdown.

Finally, it should be mentioned that (potential) risks arising from our business activities, our business relationships or services and which have a negative impact on the qualification and health of DLR employees are presented here in full. We are not aware of other risks.

As such, the aim of the DLR Competence and Value Model for Managers is to advance the development of DLR's management culture in an adaptive way, based on standardised management skills. The model helps to devise training measures and instruments for manager qualification.

In accordance with the DLR Guidelines, organisational strategies, expert interviews and an organisational value survey, the model sets out the non-technical skills required for the qualification of managers at DLR since 2021. Having this value model at the core of the competency model highlights the values that can lead every individual and DLR as an organisation to success. The model is integrated into learning systems (such as the talent management programme) and instruments (for example, management feedback) by DLR Human Resources and Organisational Development. Employees can also access the learning materials and guidelines to develop their own skills.

### Performance indicators for criteria 14 and 16

*Performance indicator GRI SRS-403-9:  
Work-related injuries*

At DLR, we use internal accident reports to gather information about accidents and 'near misses' – situations that could have led to accidents. During the reporting period, 191 reports were submitted to DLR Safety using the form. This is slightly less than in 2020. The figure included a total of eight reports on 'accidents involving third parties', such as external company employees. This was just half of the figure for the previous year, and can be attributed to the sharp reduction in on-site work during the pandemic. Nevertheless, these incidents and accidents involving DLR employees are relevant because an accident always has a cause. If the cause lies with DLR, we want to rectify it as quickly as possible. Not all accidents have to be reported to our professional association. According to their insurance

conditions, all accidents that result in three or more days off work must be reported via official channels. In the 2021 reporting year, 44 such accidents (32 in the previous year) had to be reported to the professional association and included in the statistics. These accidents resulted in 529 days off work (379 in the previous year). In the 2021 reporting year, the number of days off work per accident rose to an average of 14. There were no fatal accidents at work at DLR during the period under review.

**Performance indicator GRI SRS-403-4**  
*Worker participation, consultation and communication in occupational health and safety*

Employee participation in safety and health protection is regulated by a collective agreement at DLR and by the professional association ETEM (Energie, Textil, Elektro, Medienerzeugnisse). There are no other formats for participation.

**Performance indicator GRI SRS-404-1 (see G4-LA9):**

*Average hours of training per year per employee*

Human Resources Development at DLR rolled out the online platform YODA (Your Own Development Access) in 2021. This altered the statistics and switched from recording further training days to further training hours. A training day comprises eight hours. This makes it easier to differentiate between different functions and categories.



## 2021

Total: Training duration of 93,931.2 hours for 10,350 employees.

### Average number of hours for training and further education for all employees:

- Women: 10.50 hours
- Men: 8.36 hours

This averages out at 9.07 hours (= approx. 1.1 training day) per employee.

### For managers:

- Women: 20.83 hours
- Men: 17.71 hours

## 2020

Total: Total training duration of 15,897 days, for a total of 6696 employees.

### Percentage by gender

- Women: 44.8 percent
- Men: 55.2 percent

This equates to 2.3 planned training days per employee. There was much lower participation due to Covid-19, as many workshops had to be cancelled and digital alternatives were not provided. In fact, there were around 1.6 training days per employee.

### Other diversity indicators:

- Foreign employees: 11 percent
- Severely disabled persons: 3 percent
- Number of nationalities: 99

### Performance indicator GRI SRS-406-1:

#### Cases of discrimination

In the reporting years, accusations mostly arose in relation to applications from those with severe disabilities. There were also allegations of employment not being extended or employees not being considered for managerial positions due to gender. Harassment or sexual harassment allegations in the workplace have also come to light. We investigate such allegations immediately, using a wide variety of measures. These range from discussions with employees, giving both sides the opportunity to make a statement, providing coaching, and issuing reprimands and warnings. We reserve the right to give notice of termination. We do not currently provide any information on the exact number of incidents, because the way in which these incidents should be published has yet to be agreed with the employee representatives.

### Performance indicator GRI SRS-405-1: Diversity

Senate (2021): Percentage of women 36 percent

- aged under 30: 0 percent
- 30–50 years old: 22 percent
- aged over 50: 78 percent

Supervisory Board (2021): Proportion of women 36 percent

- aged under 30: 0 percent
- aged 30–50: 18 percent
- aged over 50: 82 percent

Total employees: Proportion of women 34 percent

Research/technical staff: Proportion of women 23 percent

Doctoral candidates: Proportion of women 31 percent

Trainees: Proportion of women 27 percent

(As of: 31/12/2021)

Total employees by age group:

- aged under 30: 26 percent
- aged 30–50: 50 percent
- aged over 50: 24 percent

## 17. HUMAN RIGHTS

We do not tolerate violations of human rights.

Since 2021, DLR has been a signatory to the **United Nations Global Compact** and shares its basic principles on human rights, labour standards, environmental protection and anti-corruption. These also align with our long-term goals. This is set out in our internal **DLR Code of Conduct** and applies both within the organisation and its business partners. It expects them and their suppliers to respect and comply with human and labour rights in their business activities.

More specific targets for this area will be developed by 2023 in compliance with the Supply Chain Due Diligence Act.

DLR has had an **equal opportunities officer** and a deputy equal opportunities officer since 2017. The positions were initially filled for four years. In 2021, the existing duo was re-elected. Their activities are based on the Federal Equal Opportunities Act.

In accordance with our internal **Guidelines on Sustainability in Purchasing and internal workshops** held as part of specialist conferences, all Purchasing employees have been trained to heed the three pillars of sustainability (environmental, economic and social) as much as possible in their procurement activities. DLR's procurement regulations refer explicitly to Section 97 (3) of the Act against Restraints on Competition (Gesetz gegen Wettbewerbsbeschränkungen, GWB), which relates to social and environmental aspects of sustainability. Employees are trained in the relevant areas and are then monitored by their line managers for effectiveness going forward.

Within the scope of our public contracts, we communicate the relevant criteria to our suppliers in the **performance specifications**. These are also incorporated into our **contract-awarding decisions** via the suitability and evaluation criteria. DLR does not tolerate forced labour, child labour or illegal employment, ensures appropriate remuneration for its employees, observes the requirements of the minimum wage law, and abides by national and international labour laws and regulations that apply to human rights matters at DLR.

These are taken into account in tenders, for example through compliance with the UN Global Compact, including the ILO Declaration on Fundamental Principles and Rights at Work. We uphold recognised quality markers (for example, Fair-trade). For services in the low-wage segment in particular (for example regarding factory safety and cleaning), our contractual partners must comply with our **standards**, including in relation to minimum wage and occupational safety. This is subject to random checks by DLR.

In the 2020 and 2021 reporting years, the aforementioned human rights criteria were included in the evaluation matrix for various tenders. In some tenders, compliance with the ILO Declaration on Fundamental Principles and Rights at Work was specified as a suitability criterion. However, no mandatory specifications were defined for tenders during this period, only recommendations for sustainable target achievement using the aforementioned guidelines, which were created and refined by a Procurement working group at DLR.

### WE SUPPORT





At the end of the 2021 reporting year, DLR Purchasing began drawing up a concept for compliance with the Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz; LkSG) to ensure compliance from 2023 onwards. These efforts include setting up a risk management system and carrying out document-based audits of A-suppliers (according to sales volume). The plan is also to appoint a [human rights officer](#) in 2022. Their tasks will include reviewing the planned investment agreements from a human rights perspective. DLR does not have sufficient personnel resources to carry out such audits independently and will probably commission external service providers for this purpose.

The goal is to address the **duties and obligations arising from the LkSG** by requiring self-declarations from suppliers. From the current perspective, this procedure appears to be the most suitable method for ensuring that public-sector contracting authorities implement the requirements of the LkSG effectively and in a resource-efficient way.

The proportion of services and materials that DLR procures from outside Europe is almost negligible, generally below between three and five percent. This means that DLR, presumably in the same manner as other public-sector contracting authorities, does not obtain its services and materials from potentially problematic procurement markets to a significant extent. These are the areas primarily addressed by the objectives of the LkSG. Preliminary products that are used in the end products procured by DLR first go through a significant number of intermediate processing steps in the supply chain, so they usually undergo LkSG quality checking by the (industrial) volume manufacturers in the upstream stages of the supply chain.

**No risks** relating to human rights were identified during the reporting period.

### Performance indicators for Criterion 17

*Performance indicator GRI SRS-412-3:*

*Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening*

DLR is committed to the United Nations Global Compact and, in particular, to the basic principles set out therein on human rights, labour standards and environmental protection. In line with this, DLR bases its actions on the United Nations Guiding Principles on Business and Human Rights and the German National Action Plan for Business and Human Rights (2016). DLR's procurement organisation was systematically examined as part of the implementation of the LkSG, which came into force on 1 January 2023. Goods and services are procured almost exclusively in Germany and other countries of the European Union. For these countries, there are no national or sector-specific human rights risks within the meaning of the LkSG due to the national and European legislation currently in force. As previously mentioned, social and environmental sustainability criteria are also part of the applicable tendering and award regulations.

*Performance indicator GRI SRS-412-1:*

*Operations that have been subject to human rights reviews or impact assessments*

DLR has 33 locations in Germany and four offices abroad (Belgium, France, Japan, USA). DLR's corporate structure was systematically examined as part of preparations for the implementation of the LkSG, which came into force on 1 January 2023. No nation-specific human rights risks as specified by the LkSG were identified.

*Performance indicator GRI SRS-414-1:*

*New suppliers that were screened using social criteria*

Apart from the preventive measures to ensure compliance with the human rights regulations mentioned in German Sustainability Code Criterion 17, no further data was recorded in the reporting period. From 2022 onwards, the human rights officer will examine the extent to which more specific data collection could be implemented at DLR in a meaningful and beneficial manner.

*Performance indicator GRI SRS-414-2:*

*Negative social impacts in the supply chain and actions taken*

No specific assessment of social impacts in the supply chain has been carried out to date. However, DLR takes Section 97 (3) of the Act Against Restraints on Competition (Gesetz gegen Wettbewerbsbeschränkung; GWB), which relates to social and environmental aspects, very seriously. This is explicitly addressed in the procurement regulations. Training courses on public procurement law are also carried out at least once a year, as necessary and when new laws come into force.

In addition, from 2022 onwards, the human rights officer will examine the extent to which more specific data collection could be implemented at DLR in a meaningful and beneficial manner.

## 18. COMMUNITY

**DLR's research mission** is essentially geared towards serving the community. We are structured as a non-profit association.

DLR has facilities and institutes at 33 locations across Germany. The aim is to **strengthen links to government, industry and research** in the respective regions. We are

involved in **many initiatives** that create added value for the regions, including a creating DLR company garden, setting up nesting places for birds and insects, commissioning a workshop for people with disabilities, supporting regional providers, allocating space for beekeepers at suitable DLR sites and promoting young talent in all its forms.

Networking in the individual regions is carried out, among other things, as part of projects such as:

- [The EcoMat e.V. innovation platform](#)
- Weser Energy Strategy Council, Northern Germany [Hydrogen Innovation and Technology Centre \(ITZ Nord\)](#),
- [Hydrogen Days at the Lampoldshausen Technology Transfer Centre](#) together with the Heilbronn Region Economic Development Agency,
- Strategic cooperation with the Berlin Agency for Electromobility (eMO)

Through regional collaborations in various scientific research areas, we foster exchange with local players and socially relevant ecological topics are jointly further developed. One such project is [Join in Lab – Jena’s citizen science laboratory](#). The aim of this project is to involve a broad audience in scientific research through a variety of event formats – from workshops to teacher training courses, research meets and science slams.

**DLR's promotion of young talent** is structured along the entire education system and is directed at all relevant target groups, following an integrated approach. The individual measures are assigned objectives, and build upon and reinforce one another. One outcome was the [DLR School Labs](#): in 2021 6000 pupils visited these 15 school laboratories, which had a wide-ranging impact across schools of every kind. Subsequent internships or project work with selected groups of pupils can deepen interest. In addition, DLR acts as a training centre in the organisation and implementation of dual studies and vocational training. The result was 267 trainees at DLR in 2021. In addition, DLR offers work opportunities for students and support with degree theses. As part of the DLR\_School\_Labs, the

Girls' Day event takes place every year and gives girls a fascinating insight into space research. In 2021, this took place online, with the theme of 'DLR Future Day'.

### Digital formats

The DLR\_School\_Labs are extracurricular learning facilities located at several DLR sites and at partner universities. On the DLR\_School\_Lab website, teachers can find a list of online options for teachers and pupils, with exciting STEM lessons that draw upon the latest research. These include 'virtual classrooms' where DLR experts provide insights into current research issues. DLR\_School\_Lab team members can also demonstrate an experiment live to the class and evaluate it together. There is also the option to carry out a long-term school project, where a working group is overseen and professionally supervised remotely by a DLR\_School\_Lab. Many of these options are suitable for use in classroom teaching, as hybrid formats or in home schooling. These services are aimed at schools from all over Germany, regardless of where the specific DLR\_School\_Lab or school are located. The DLR\_School\_Lab Club was established in 2016 for students interested in research activities outside the classroom.



The [DLR\\_School\\_Lab TV](#) website allows schoolchildren to access fascinating information from research, regardless of whether they have visited a DLR\_School\_Lab or not. There are a number of videos on the website; some take young viewers on fascinating journeys of discovery into space, while others present astonishing experiments or explain physics facts in short clips. Young viewers can watch them in their free time or in class and immerse themselves in the exciting world of STEM.

### Innovation2gether – DLR institutes and partners from industry innovate together

DLR Technology Marketing is the point of contact for innovative enterprises of all sizes and serves as a bridge between research and business, and between the product idea, innovation and market. DLR Technology Marketing shapes and sees the process all the way through, from the initial idea to the successful market launch, while supporting the further development of product-oriented technology in a targeted way. To boost technology transfer, DLR invests in innovation projects. These projects are carried out both with industry, especially with SMEs, and with other research institutions. By cooperating with DLR, companies benefit from access to unique expertise and technologies and thus have the opportunity to secure competitive advantages by getting a head start and licensing intellectual property rights.

DLR's work in this area does not result in any risk of negative effects in terms of the social issues addressed here. (For details of risk management, see German Sustainability Index Criterion 6, Rules and processes)

### Performance indicators for Criterion 18

Performance indicator GRI SRS-201-1:

Direct economic value generated and distributed

**DLR's total funding** in 2021 amounted to **1348 million euros**. Institutional funding amounted to 775 million euros. In 2021, DLR received third-party funding of 573 million euros, which accounted for 43 percent of its total income.

DLR receives 90 percent of its institutional funding through the programme-oriented funding of the Helmholtz Association from the federal government (via the Federal Ministry for Economic Affairs and Climate Action (BMWK) and ten percent from the respective states in which its 33 locations are located, as well as in some cases from the Federal Ministry of Education and Research (BMBF) and the Federal Ministry of Defence (BMVg). It also receives **third-party funding** from industry and from additional funding programmes through tenders.

We publish further financial figures in our [Sustainability Report – see the section 'Statistics for recent years'](#).

## 19. POLITICAL INFLUENCE

As a research organisation, employer, recipient of grants, client, tenant, energy consumer, and so on, DLR is affected by **federal legislative processes** in a number of ways. During the reporting period, this included the Coal Phase-Out Act (Kohleausstiegsgesetz) and the associated Structural Development Act for Coal-mining Regions. While the former is indirectly precedent-setting for energy research projects, the foundation of two additional institutes and a new institutional research programme for DLR was specifically decided in the latter.

Through its **committees**, which include representatives of state institutions, DLR provides institutional exchange on research matters and key issues such as the orientation of its strategy and setting the course for further developments.

DLR sees itself as responsible for reporting on its research and presenting its findings to the public. As such, it also makes its scientific expertise available to stakeholders from government. For instance, DLR experts are invited to hearings and expert discussions in the German Bundestag. In addition, DLR provided information on specific study results in the reporting period, including in its **expert papers** 'Setting the course for a climate-neutral energy system now: focus on H2 sector coupling and importing green hydrogen' and 'Solar-thermal power plants: heat, electricity and fuels from concentrated solar energy'. In a policy letter, DLR informed parliamentarians and those responsible at the federal ministries about technologies and processes that can be used to implement the energy transition in aviation.

In its role as a scientific organisation, DLR is represented within the **advisory bodies of the federal government**. For example, DLR Executive Board Member Karsten Lemmer was appointed to the federal government's National Hydrogen Council during the reporting period. The committee supports the federal government with proposals and recommendations for action in implementing and developing the national hydrogen strategy. DLR also took part in the Aviation Industry Round Table event in October 2020 at the behest of the Federal Government Coordinator of German Aerospace Policy. Representatives from industry, works councils, trade unions, research institutions and the federal states discussed the effects of the Covid-19 pandemic on the aviation industry and the ways in which Germany can become a technological pioneer for carbon-neutral aviation.

DLR also contributes its scientific expertise to various **organisations and associations**, including the Bundesverband Informationswirtschaft, Telekommunikation und neue Medien e. V. (bitkom), the German Transport Forum (DVF) and the Bundesverband der Deutschen Luft- und Raumfahrtindustrie e.V (BDLI).

Apart from this, DLR does not prepare any submissions on current legislative procedures. DLR is not a member of any politically active organisations and does not donate to political parties.

### Performance indicators for Criterion 19

Performance indicator GRI SRS-415-1:

Political contributions

DLR does not make any donations to political parties.

## 20. CONDUCT IN COMPLIANCE WITH THE LAW AND POLICY

At DLR, **compliance** is not simply a matter of **adhering to legal and internal regulations**; it is also about acting in accordance with the **basic ethical principles** defined in our corporate values. These include observance of human rights, labour standards, health protection, environmental protection and combating corruption.

These values and regulations have been guaranteed at DLR since 2013, following the creation of the **Compliance department**. Since then, this area has been developed apace. A **Compliance Taskforce** was set up for the rule-based handling of suspected cases of serious compliance violations, particularly criminal acts. The long-standing **Anti-Corruption Guidelines** were also revised to account for organisational changes and incorporate findings from the Compliance department.

The option of submitting information via anonymous or encrypted emails ensures the **confidential treatment of information and strict protection of whistleblowers' anonymity**.

The **Guideline Manager** has also proven beneficial. This software tool gives all employees access to all the essential guidelines in their current, valid form at any time.

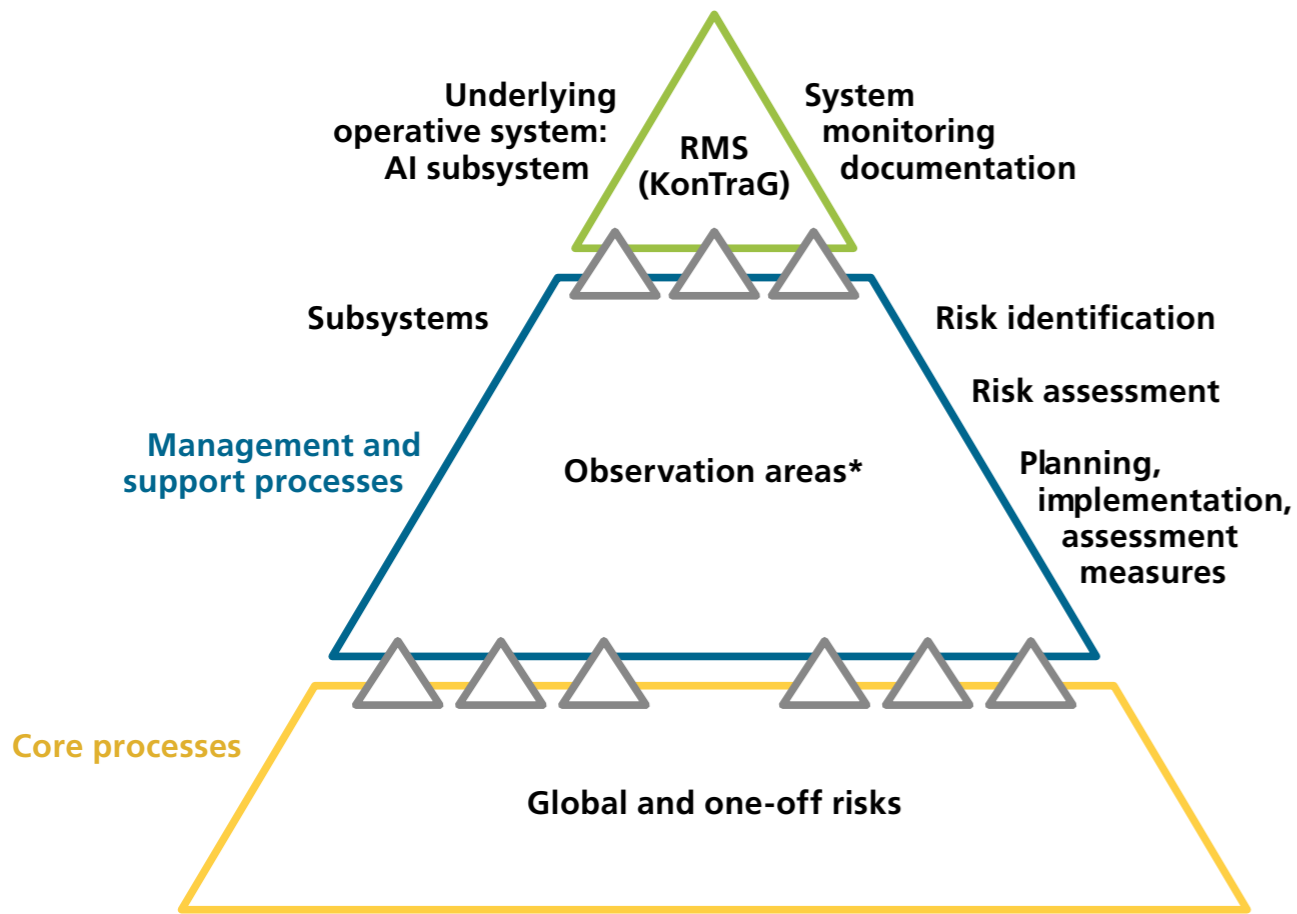
For a long time, DLR has been using a **risk management system** in which all discernible business risks (including those that may result from rule violations) are collected, evaluated and monitored (for details, see German Sustainability Code Criterion 6, Rules and Processes). Such risks are classified based upon probability of occurrence and potential degree of damage. From a compliance perspective, the most serious risks come as a result of violations of the rules, in this order: 'Violations of environmental protection and occupational safety regulations', 'violations of export control regulations' and 'violations of public procurement regulations'. Compliance has only checked the correct

classification. The risk of fraudulent activities was added during the reporting period. These are risks resulting from employee actions relevant to criminal law (for example fraud or theft) that are classified in risk class 3 (low probability of occurrence and low potential damage in relation to the size of DLR). The department is also subject to **regular auditing** through the central functions subsystem.

To effectively **combat corruption** by avoiding bribery or kickbacks in any form, DLR has put together its own guidelines and made them accessible to all employees on the intranet. These are based on the federal government guidelines on preventing corruption. The heads of the institutes and facilities are responsible for compliance with and implementation of the guidelines for preventing corruption in their respective areas. If there is a suspicion of corruption or bribery, they are obliged to contact the relevant persons. Ongoing checks are also conducted by the Internal Audit Department at DLR.

DLR's **Compliance Officer** is responsible for compliance and has extensive rights and powers. There is a direct reporting channel to the Executive Board and to the Deputy Chair of the Executive Board. The annual Compliance Report is addressed to the entire Executive Board. The Compliance Officer also holds regular monthly consultations with the Administrative Board. This body is always involved on an ad-hoc basis whenever there is any suspicion of a serious compliance violation.

Employees are **made aware of the topic of compliance** through ongoing training, both in the form of in-person events and, increasingly, through e-learning tools, which were initiated due to the Covid-19 pandemic and have since continued to be used. The overarching goal is to minimise the likelihood of intentional and unintentional violations of the rules.



**\*Observation areas:**

- |   |  |
|---|--|
| 1. Contract management                        | 12. German Space Agency at DLR               |
| 2. HR management                              | 13. DLR Projektträger                        |
| 3. Finance                                    | 14. VO-RU joint ventures                     |
| 4. Resource planning and control              | 15. Transport research programme             |
| 5. Strategy                                   | 16. Space research programme                 |
| 6. International relations                    | 17. Aeronautics research programme           |
| 7. Procurement                                | 18. Energy research programme                |
| 8. Technical infrastructure                   | 19. Security research programme coordination |
| 9. Technology Marketing                       | 20. Compliance                               |
| 10. General legal matters                     | 21. Commercial information systems           |
| 11. Information and communications technology | 22. Data protection                          |

**Particular risks** stem from the fact that DLR is often moving large sums of money, that there are often only a few operators active on both the procurement and sales markets, and projects are handled over a very long period of time and involve intensive interpersonal exchange. Structurally, these factors increase the likelihood of corrupt actions, although there has not been a notable case that could be classed as ‘corruption’ at DLR in the last 15 years. However, the rapid growth of DLR, its many locations, complex organisation and a corporate culture that is extremely trust-based make the occurrence of criminal acts such as fraud or theft more likely.

**Performance indicators for Criterion 20**

*Performance indicator GRI SRS-205-1:  
Operations assessed for risks related to corruption*

All areas of the organisation have been assessed for their susceptibility to corruption offences (33 DLR sites = 100 percent).

All organisational units and processes that carry out procurement activities are considered to be particularly vulnerable to corruption.

*Performance indicator GRI SRS-205-3:  
Confirmed incidents of corruption and actions taken*

No cases of corruption were reported at DLR during the 2021 reporting period.

*Performance indicator GRI SRS-419-1:  
Non-compliance with laws and regulations in the social and economic area*

No monetary or non-monetary sanctions were imposed on DLR for violations during the reporting period.



## IV.2 STATISTICS OF THE YEARS 2019–2020–2021

FINANCES – BUDGET	YEAR 2019	YEAR 2020	YEAR 2021
<b>Total</b>	<b>1155 m €</b>	<b>1261 m €</b>	<b>1348 m €</b>
Aeronautics	294 m €	316 m €	312 m €
Space	466 m €	485 m €	520 m €
Energy	91 m €	89 m €	149 m €
Transport	90 m €	125 m €	112 m €
Security	of which 71 m €	of which 75 m €	
German Space Agency at DLR	43 m €	42 m €	45 m €
Project Management Agency activities	126 m €	142 m €	168 m €
Other	46 m €	62 m €	42 m €

Institutional funding	YEAR 2019	YEAR 2020	YEAR 2021
<b>Total</b>	<b>628 m €</b>	<b>713 m €</b>	<b>775 m €</b>
Aeronautics	215 m €	247 m €	234 m €
Space	271 m €	297 m €	343 m €
Transport	57 m €	57 m €	73 m €
Energy	55 m €	84 m €	92 m €
Civil security research	11 m €	10 m €	15 m €
Other (HGF and ETW)	18 m €	18 m €	18 m €

FINANCE – THIRD-PARTY FUNDING	YEAR 2019	YEAR 2020	YEAR 2021
<b>Total third-party funding</b>	<b>528 m €</b>	<b>548 m €</b>	<b>573 m €</b>
<b>Third-party funding as share of total</b>	<b>46 %</b>	<b>43 %</b>	<b>43 %</b>

Income from EU funding (DLR total)	YEAR 2019	YEAR 2020	YEAR 2021
<b>Income from EU funding (DLR total)</b>	<b>52.5 m €</b>	<b>43.6 m €</b>	<b>50.6 m €</b>
EU income Aeronautics	21.0 m €	17.5 m €	18.0 m €
EU income Space R&T	7.7 m €	8.9 m €	7.3 m €
EU income Energy	5.4 m €	5.1 m €	4.7 m €
EU income Transport	5.0 m €	2.6 m €	2.9 m €
EU income Security	0.0 m €	0.1 m €	0.2 m €
Success rate EU applications (ratio accepted/submitted)	32 %	27 %	28 %
Coordinator ratio (ratio coordinator/total EU projects)	19 %	10 %	10 %

FINANCE – PROJECT MANAGEMENT AGENCY	JAHR 2019	JAHR 2020	JAHR 2021
<b>PT Aeronautics Research</b> Contribution to DLR third-party funding	<b>8.1 m €</b>	<b>7.0 m €</b>	<b>7.7 m €</b>
<b>PT Aeronautics Research</b> Funding volume	<b>178 m €</b>	<b>202 m €</b>	<b>231 m €</b>
<b>DLR Project Management Agency</b> Contribution to DLR third-party funding	<b>118.7 m €</b>	<b>132.7 m €</b>	<b>157.9 m €</b>
<b>DLR Project Management Agency</b> Funding volume	<b>1540 m €</b>	<b>2240 m €</b>	<b>2011 m €</b>
Health research	416 m €	934 m €	N/A
Environment, culture, sustainability	151 m €	193 m €	N/A
Educational research, integration, gender studies	444 m €	460 m €	N/A
European and international cooperation	78 m €	77 m €	N/A
Science Years	10 m €	11 m €	N/A
Society, Innovation, Technology	442 m €	562 m €	N/A

FINANCE – GERMAN SPACE AGENCY AT DLR	YEAR 2019	YEAR 2020	YEAR 2021
<b>German Space Agency at DLR</b> Contribution to DLR third-party funding	<b>43 m €</b>	<b>42 m €</b>	<b>45 m €</b>
<b>German Space Agency at DLR</b> Funding volume	<b>1218 m €</b>	<b>1213 m €</b>	<b>1347 m €</b>
<b>National programme</b>	<b>285 m €</b>	<b>268 m €</b>	<b>316 m €</b>
Space Science	51 m €	53 m €	44 m €
Earth observation	46 m €	31 m €	100 m €
Space Systems Technology, Robotics and others	81 m €	83 m €	87 m €
Human spaceflight, ISS, Exploration	5 m €	–	–
Space transportation	5 m €	5 m €	4 m €
Navigation	7 m €	7 m €	9 m €
Satellite communications	63 m €	59 m €	31 m €
Research under space conditions	27 m €	–	–
Research and exploration	–	30 m €	4 m €

ESA	YEAR 2019	YEAR 2020	YEAR 2021
<b>Total (incl. BMVI et al.)</b>	<b>933 m €</b>	<b>945 m €</b>	<b>1028 m €</b>
Research programme	114 m €	115 m €	120 m €
Earth observation	160 m €	206 m €	205 m €
Telecommunications	59 m €	57 m €	83 m €
Navigation	1 m €	1 m €	3 m €
Astronaut missions, exploration and microgravity	274 m €	228 m €	188 m €
Launcher systems and European Spaceport in Kourou	252 m €	252 m €	300 m €
Technology, Exploration, Space Situational Awareness	21 m €	31 m €	69 m €
General budget	52 m €	55 m €	60 m €

RESEARCH	YEAR 2019	YEAR 2020	YEAR 2021
<b>Technology Marketing</b>			
Income from licences	2.4 m €	2.9 m €	3.1 m €
Company spin-offs	5	6	1
Investments in technology transfer projects	6.5 m €	6.5 m €	8.5 m €
New independent technology transfer projects	19	31	29
DLR intellectual property	4.193	3.868	3.811

Results	YEAR 2019	YEAR 2020	YEAR 2021
Number of peer-reviewed publications	3055	2091	2327
Number of peer-reviewed open access publications	1297	1358	1539
Share of open access, percent	54 %	65 %	66 %
Number of ISI-/SCOPUS peer-reviewed journal contributions	1218	1410	1453
Number of ISI-/SCOPUS peer-reviewed open access journal contributions	656	1039	1104
Number of conference contributions	2918	1657	2452
Number of ISI-/SCOPUS conference contributions	285	389	519
Conference contributions (per scientific staff member, institutes and facilities)	0.06	0.07	0.09
Calls to universities	22	25	12
Lectureships taken	456	452	463
Diploma, Masters and Bachelor's dissertations	690	528	608
Dissertations	107	124	119
Postdoctoral qualifications	5	1	0

NETWORKING	YEAR 2019	YEAR 2020	YEAR 2021
Sponsorship agreements (with industry)	23	20	18
DAAD-DLR Research Fellow	120	112	138
ESA (higher-grade staff)	N/A	N/A	N/A
SP (share of funding)	N/A	N/A	N/A

ECONOMIC ACTIVITIES	YEAR 2019	YEAR 2020	YEAR 2021	
<b>Resources</b>				
Electricity * (consumed) MWh	70,038	67,314	72,843	
Electricity * (generated) MWh	2104	3954	7753	
	Cogeneration systems	2,089,000	3,936,685	7,737.00
	Photovoltaic systems	15,328	17,215	15,883
District heating MWh	24,761	20,549	21,661	
District cooling MWh	4258	4096	4412	
Gas m <sup>3</sup>	29,290	31,881	43,649	
Fuel oil L	8253	4671	2868	
Drinking water ** m <sup>3</sup>	115,797	N/A	N/A	
Waste water ** m <sup>3</sup>	114,556	N/A	N/A	
Waste *** (t)	2204	N/A	N/A	
	non-hazardous	2119	N/A	N/A
	hazardous	86	N/A	N/A

### Transport

#### Vehicle fleet

Number of aircraft	9	10	10	
Total flying hours (DLR research fleet)	1329	835	900	
Litres of kerosene (DLR research fleet)	1,188,458	864,288	632,064	
Number of vehicles (research and company vehicles)	106	131	157	
	Electric	15	17	21
	Hybrid	4	10	14
	Hydrogen	2	3	6
Fuel in litres (company vehicles)				
	Diesel	48,857	32,187	25,764
	Petrol	9327	4914	8195
	Hydrogen	163	142	452

#### Business trips (settled)

Flown kilometres	54,591,521	13,174,431	3,638,793
CO <sub>2</sub> from flights (kg)	8,265,449	1,960,889	539,574
Railway kilometres (Pkm)	13,880,996	N/A	2,012,192
CO <sub>2</sub> from railway (kg)	0	0	0

#### Work route 250 AT (Pkm)

Public transport	–	–	11,467,305
Car	–	–	46,410,430
Electric car	–	–	1,334,987
Cycling	–	–	4,709,596
Walking	–	–	133,711

### Quality and product assurance

Current certifications	35	35	35
Current accreditations	13	11	11
Number of DLR auditors	36	37	41
Audit performance	85 %	81 %	62 %
Number of staff (experts) on standardisation committees (DIN, ISO etc.)	75	77	77
Number of committees on which staff are active	73	75	91
Number of committee places occupied by staff (experts)	134	129	127

Legend:

*2019: 17 DLR sites	WD: Working day
**2019: 14 DLR sites	N.A.: not available
*** 15 DLR sites	Sci. staff: scientific staff
PKM: Passenger-kilometre	– : not yet, or no longer, collected

PERSONNEL	YEAR 2019	YEAR 2020	YEAR 2021
Staff	8,960	9,780	10,327
Average age in years	40.0	39.5	40.0
Total scientific staff	6741	7345	6601
Scientific staff in institutes and facilities	5,086	5,480	5,814
Payroll in euros	591,965,602	648,393,242	715,785,258

### Development

Long-term contracts	5029	6884	7247	
Temporary contracts	3928	2896	3079	
Teleworking	1019	1030	872	
Parental leave	134	504	532	
	of which men in %	20.1	52.8	52.3
	of which women in %	79.9	42.7	47.7
Severe disabilities	285	299	318	
Total percentage of women	33 %	34 %	34 %	
	in management positions	22 %	21 %	21 %
	scientific staff	22 %	23 %	23 %
Further education, days per person	2.8	1.6	1.1	
Mentoring pairs	10	12	9	

### Education and outreach

Young scientists	20	–	–
Graduates (internal/external)	1096	1162	1192
Trainees	239	243	267
Number of DLR_School_Labs	13	13	15
Visitors to DLR_School_Labs	37,877	9243	6018
Trainer workshops	1777	369	68
School student placements	407	136	83
Schools supplied with teaching materials	4200	3500	4100

### Occupational safety

Accident trends (accidents at work or while travelling to and from work per 1000 people)	6.6	3.3	4.3
Average BG ETEM-insured operations	22.3	18.54	17.0
National average according to DGUV	24.0	21.5	18.3

### International

Nationalities	95	98	99
Incoming			
Visiting scientists (excl. scientific staff and personnel)	543	500	560
Percentage of scientific staff at institutes and facilities (stay > 1 month)	10.68 %	9.12 %	9.63 %
Outgoing			
Foreign secondments (people)	59	52	37
Foreign secondments (months)	430	N/A	318
Percentage of scientific staff at institutes and facilities (stay > 1 month)	1.16 %	0.95 %	0.64 %
Foreign offices	4	4	4
Research stations abroad	3	3	3

### LARGE-SCALE RESEARCH FACILITIES

Research facilities	177	182	189
Used for internal research	70 %	78 %	73 %
Used for transfer and contract research	30 %	22 %	27 %
Number of institutes/facilities operating research facilities	24 (out of 40)	28	32
Number of sites with facilities	17	20	21

## About DLR

DLR is the Federal Republic of Germany's research centre for aeronautics and space. We conduct research and development activities in the fields of aeronautics, space, energy, transport, security and digitalisation. The German Space Agency at DLR plans and implements the national space programme on behalf of the federal government. Two DLR project management agencies oversee funding programmes and support knowledge transfer.

Climate, mobility and technology are changing globally. DLR uses the expertise of its 54 research institutes and facilities to develop solutions to these challenges. Our 10,000 employees share a mission – to explore Earth and space and develop technologies for a sustainable future. By transferring technology, DLR contributes to strengthening Germany's position as a prime location for research and industry.

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This document is published in English and German. For this reason, we generally refrain from using academic titles throughout the report. We have focused on writing in a gender-appropriate manner. Nevertheless, we would like to point out that the feminine and masculine terms used in the texts apply to all genders. We ask for your understanding in this regard.