



Sustainability Report

2020

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Sustainability is a Core Element of our Strategic Alignment

Dear stakeholders of Bayer,

2020 was anything but a normal year. The pandemic had devastating consequences: More than two million people have died worldwide and several hundred million have lost their jobs. The virus has turned the reality of countless companies, employees and their families upside down, and Bayer and its employees are no exception.

At the same time, the pandemic is a setback for sustainable development. In addition to the health risks, the fight against hunger and inequality throughout the world has been massively impeded by COVID-19. Nevertheless, I do find it encouraging that the major issues of climate change and the growing world population are still given the priority they deserve. The topic of sustainability was only briefly superseded by COVID-19 and remains at the top of the global agenda. Experts agree that the recovery following the pandemic must take into account the ecological limits of the planet.

For Bayer, 2020 was also the first year of our new sustainability strategy, with which we have set ambitious social and ecological targets aligned to the Sustainable Development Goals (SDGs) of the United Nations. This report will demonstrate just how far we've come in this respect. To be honest, I'm very proud of the progress we've made in such a historically challenging year:

- // We aligned the variable compensation of the Board of Management and managerial employees to the sustainability targets.
- // We established a specific timetable for all sustainability targets through 2030 and provided it with auditable indicators.
- // We created an external Sustainability Council comprising leading experts who now engage in regular dialogue with the Board of Management.
- // The Science Based Targets initiative audited our climate protection targets and confirmed that Bayer is helping to limit global warming to 1.5 degrees Celsius and fulfill the Paris Agreement. In addition, we have committed to the climate target of "net zero emissions" by 2050.
- // We aim to increase the proportion of women in top management to at least 33 percent by 2025 and to 50 percent by 2030.

In the implementation of our sustainability strategy, we are focusing on transparency and continuity. We say what we do, and we do what we say. Above all, however, we regard sustainability not as an additional activity, but rather as a core element of our strategic and normative alignment.

We invest in research and development, and thus in tomorrow's innovative business models. That has always been the secret of Bayer's success, and it is also the key to transitioning to a sustainable economy.



Bayer CEO Werner Baumann

The opposite of that – a sustainability strategy based above all on sacrifice and restrictions – would fail doubly because it neither leads to sufficient ecological improvements nor meets with the necessary societal acceptance. I am convinced that sustainable development for what is already a world population of just under eight billion people can only succeed through a market economy system. With the right incentives, this also means that companies can only be successful if they truly operate sustainably.

Furthermore, I believe that Bayer's entrepreneurial and social responsibility go hand in hand. We want to make a key contribution to the SDGs with our businesses – guided by the principles of the U.N. Global Compact and in keeping with our vision "Health for all, hunger for none."

This is Bayer's approach and aspiration. And it is what we want to be judged on.

Sincerely,

Werner Baumann

Chairman of the Board of Management of Bayer AG
Chief Sustainability Officer

About this Report

With this Sustainability Report, Bayer aims to provide transparent and in-depth insights into both its sustainability strategy and its sustainability performance. The report supplements the nonfinancial statement pursuant to the CSR Directive Implementation Act (CSR-RUG) that is published in the combined management report of the [2020 Annual Report](#).

The reporting period is the 2020 fiscal year. The closing date for all data and facts was December 31, 2020.

The Bayer Group's sustainability reporting has been aligned to the guidelines of the Global Reporting Initiative (GRI) and the 10 principles of the U.N. Global Compact (UNGC) since 2000. This report has been prepared in accordance with the GRI Standards: Core option. This report also serves as a Communication on Progress in line with the U.N. Global Compact. For the first time we also take into account the relevant requirements of the Sustainability Accounting Standards Board (SASB). A summarized [index](#) according to the three SASB Industry Standards relevant to us "Biotechnology & Pharmaceuticals," "Chemicals" and "Agricultural Products" can be found on our website. In our climate reporting we follow the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and publish a [separate index](#) in PDF format also on our website.

We also use, for example, the international recommendations and guidelines of the OECD and ISO 26000 as a guide when defining and selecting nonfinancial indicators and in our reporting. In selecting and measuring our key data, we take into account the recommendations of the Greenhouse Gas Protocol with respect to greenhouse gas emissions and those of the European Federation of Financial Analysts

Societies, the World Business Council for Sustainable Development, the European Chemical Industry Council (CEFIC) and the International Council of Chemical Associations (ICCA) with respect to other nonfinancial indicators.

Data collection and reporting thresholds

The selection of reported content is based on the results of our materiality analysis and the requirements of the GRI Standards.

HR and HSE (health, safety and environment) indicators and our social data are given for continuing operations unless otherwise explicitly indicated.

Reporting of the Group's HSE data includes all fully consolidated companies in which we hold at least a 50 percent interest. Data on occupational injuries is collected at all sites worldwide. Environmental indicators are measured at all environmentally relevant production, research and administration sites. We consider all sites to be environmentally relevant whose annual energy consumption is greater than 1.5 terajoules.

Several indicators (particularly related to employees and procurement) are reported only for our significant locations of operation in line with the requirements of the corresponding GRI disclosures. In 2020, this covered 17 countries that accounted for more than 80% of total Bayer Group sales.

Where information is only relevant for parts of the Bayer Group, we refer to this. In addition, deviations are indicated in the footnotes of the relevant tables and graphs.

External verification

The auditing company Deloitte GmbH Wirtschaftsprüfungsgesellschaft (Deloitte), Munich, Germany, subjected this Sustainability Report of Bayer AG, Leverkusen, for the fiscal year from January 1, 2020, to December 31, 2020, to an audit with limited assurance.

Additional information

- // As the indicators in this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.
- // References to websites are indicated by an underlined word.
- // This report is issued in German and English.

The Sustainability Report is published in PDF format together with the [2020 Annual Report](#), the SASB Index and the TCFD Index on Bayer AG's website.

The next Sustainability Report is due to be published in March 2022.

Our Sustainability Strategy

The challenges of the future are considerable: Climate change, loss of biodiversity, extreme weather conditions and water crises are seen as global risks of our time. They are of special consequence for Bayer's business of health and nutrition. Yet they also harbor tremendous opportunities to help bring about a turnaround worldwide with our activities and our products, positively impact people's lives and achieve growth with sustainable businesses.

Society, politicians and investors are making an urgent appeal to take action that goes beyond mere risk minimization. They expect innovative, sustainable products and solutions to help people and the environment. They are voicing these demands with growing urgency and increasing vehemence. Our customers too demand sustainable action from us and pass on to us consumer expectations as regards environmental protection, ethical conduct and social needs.

We have a particular responsibility

We know that the size of our business alone means we must and can make a significant contribution to sustainable development. We also know that our industries, especially the agriculture sector, are among the causes of the described challenges.

At the same time, we believe our activities here have great potential for offering sustainable approaches. With innovative products and services, as well as the will to develop resilient and future-oriented business models, we are going back to our roots: Our purpose "Science for a better life" guides our actions to help achieve a high quality of life on a healthy planet. To this end, we are driving forward science and innovation. We develop solutions that address the most

significant ecological and social challenges and needs to attain our vision "Health for all, hunger for none."

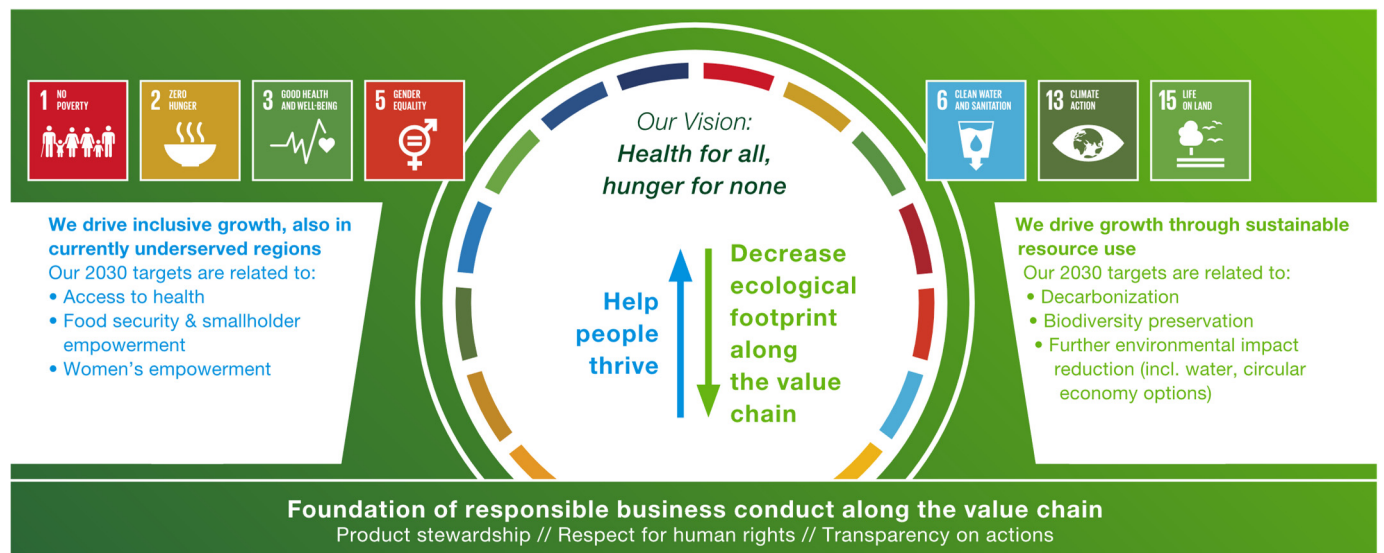
Sustainability: a growth driver

We reach millions of people worldwide with our products and services. We invest significantly in inclusive growth to facilitate a better life for more people – a life marked by good nutrition and health. To achieve this, we have set ourselves targets with regard to access to health care, food security, support for smallholder farmers and women's empowerment. At the same time, we are reducing our ecological footprint throughout our entire value chain – from our

suppliers to our own production and the use of our products by consumers, patients and farmers. Here we have set ourselves targets related to decarbonization, conserving biodiversity and further reducing environmental impact.

We hope that what is good for people and the environment will also be good for our company: We view sustainability as a growth driver for our business. In line with the global Sustainable Development Goals (SDGs) of the United Nations, we have established ambitious targets and want to be judged in the future on how effectively we attain them.

Our Focus SDGs and Our Impact



Enabling a better life for more people

Four billion people today have no access to basic health care, while three-quarters of a billion suffer from hunger. We want to help change that. More than nearly any other company, we can help to improve people's health and safeguard good nutrition for the growing world population.



Target 2030:

100 million smallholder farmers in LMICs given support

Supporting smallholder farmers

There are some 550 million small farmers worldwide. In many rural geographies in low- and middle-income countries (LMICs), smallholder farmers are the backbone of food security in their communities and thus play a crucial role in improving the quality of life; they feed more than half of the population in developing countries. A large segment of smallholders faces significant challenges including low productivity due to the lack of access to good quality crop inputs and inadequate knowledge of agricultural practices to improve productivity, along with affordable financing options and market access to sell their produce competitively. They are also exposed to impacts of climate change and post-harvest losses. All these challenges result in their inability to generate sustainable farm incomes impacting the livelihood of farm communities. Our products, technologies and services

already support around 45 million smallholder farmers in LMICs. By 2030, we commit to help 100 million smallholder farmers to earn sustainable farm incomes and improve rural livelihoods. To achieve this goal, we shall further expand our product and service portfolio for smallholder farmers, including innovative business models and digital solutions across the entire crop system. To this end, we will establish crop value chain partnerships to deliver high-quality inputs, agronomy knowledge, cost-effective financing and risk mitigation solutions and market linkages to sell their produce. These will include collaborations with, for example, government research institutes, NGOs and international financial institutions. Additionally, Bayer does not intend to enforce its IP rights against smallholder farmers for private and non-commercial use of farm-saved seed to escape extreme poverty and will collaboratively work to integrate them into the world of commercial farming to improve their livelihood.

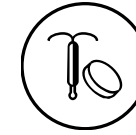


Target 2030:

Expand access to everyday health for 100 million people in underserved communities around the world

Access to everyday health care

The COVID-19 pandemic has shown the importance of access to health care. At least half the world's population is unable to access basic medical services. This applies particularly to women and children in underserved communities. Improved access to self-care products and services, in concert with targeted education, helps to prevent illnesses. In many regions, self-care is often the only option for ambitious health solutions. By 2030, we will have facilitated access to everyday health care for 100 million people in underserved regions or social strata. In 2020, we already reached 43 million people.



Target 2030:

Enabling 100 million women in LMICs to gain access to modern contraception

Access to modern contraception

Gender equality will be a crucial factor in future economic and social development. Modern contraception demonstrably helps to strengthen the role of women. It helps them determine their own path in life – often with positive effects on families and communities. Nevertheless, more than 200 million women in low- and middle-income countries who want contraception still have no access to modern family planning. As a leading global pharmaceutical producer of contraceptives, we have been active in this field for many years. In 2020, we reached nearly 40 million women in developing countries and emerging markets.

We aim to enable 100 million women in LMICs to gain access to modern contraception by 2030. With this goal in mind, we will expand our offering of long-acting products that are in especially high demand in international development projects, such as the Jadelle™ implant and the Mirena™ coil. As is currently the case for oral contraceptives and contraceptive injections, these products will be offered to our partners (such as the United Nations Population Fund (UNFPA)) at preferential conditions. Further collaborations are planned; we pledge support irrespective of the products used.

Additional ambition of the Pharmaceuticals division

In the future, we aim to increase the availability of our innovative prescription products in LMICs through programs that promote fair prices and affordable products. We will already include our leading products Xarelto™, Eylea™, Mirena™, Adempas™ and Nexavar™ in these projects this year.

Reducing the ecological footprint

We help to protect the health of people, animals and plants, and to conserve ecosystems. Our climate protection target corresponds to the objective of the Paris Agreement to limit global warming to 1.5 degrees Celsius. It was confirmed by the Science Based Targets initiative in summer 2020. We will also be a climate-neutral company by 2030. As a signatory to the Business Ambition for 1.5°C initiative, we want to attain net zero emissions in our entire value chain by 2050.

Our climate strategy comprises wide-ranging measures to reduce greenhouse gas emissions within our company and along our entire value chain.

CO₂ reduction

By the end of 2029, we will reduce CO₂ emissions from our own business operations by 42% by increasing energy efficiency at our sites¹ and sourcing 100% of our electricity from renewable energies.

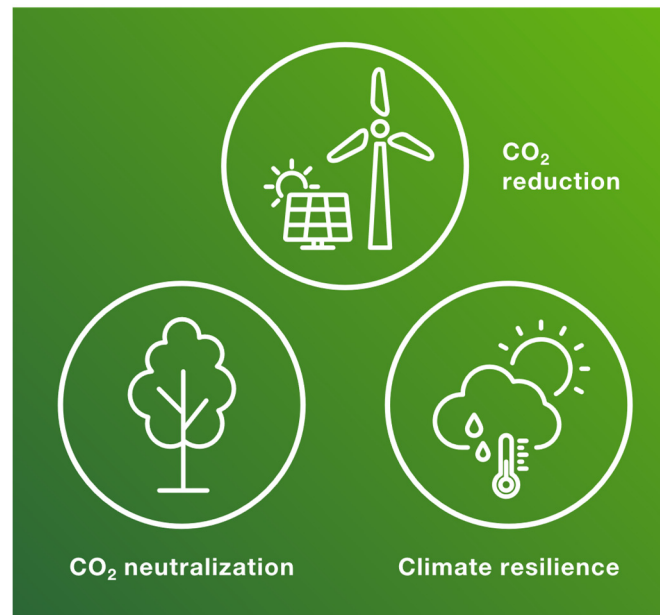
¹ Scope 1 and Scope 2 (market-based) emissions of the environmentally relevant sites, i.e. those whose annual energy consumption exceeds 1.5 TJ, including vehicle fleet emissions

By the end of 2029, we shall reduce CO₂ emissions along the upstream and downstream value chain by at least 12.3%, especially through procurement measures, but also by restricting business travel.

CO₂ neutralization

We will offset remaining emissions with a growing share of CO₂-neutralizing projects by acquiring certificates from audited climate protection projects that meet externally recognized quality standards. Additionally, a huge opportunity presents itself through our plans to develop a certified business model for CO₂ capture for farmers. We have already begun this process in the United States and Brazil.

Elements of the Bayer Climate Strategy



Climate resilience

To facilitate a more sustainable supply chain, we help farmers better resist the effects of climate change – for example through improved agricultural practices. Furthermore, we are following the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) by including the climate aspects in our opportunity and risk management.

Additional ambitions of the Crop Science division

We aim to reduce greenhouse gas emissions from our highest-emitting crops by 30% in our sales regions: The Bayer Carbon Initiative, which was launched in July 2020, rewards farmers in Brazil and the United States for intelligent, climate-friendly processes such as forgoing mechanical soil cultivation or using cover crops.

We also aim to reduce the environmental impact of our crop protection products in important crops by 30% and expect this to have a positive impact on biodiversity. To achieve more sustainable production, we will implement the principles of the circular economy.

Steering and living sustainability

Sustainability is an essential part of our business strategy and is currently being integrated into all our key processes so that we can perform our activities in an even more responsible and future-oriented way.

Werner Baumann, Chairman of the Board of Management and Chief Sustainability Officer of Bayer, has personally assumed responsibility for its implementation and entrusted Matthias Berninger, head of Public Affairs, Science & Sustainability, with designing the way it is operationalized in the company. All three divisions – Crop Science, Pharmaceuticals and Consumer Health – and the Group-wide Sustainability and Innovation department report to him.

Integration into the compensation system

In 2020, we produced a timetable that shows how we aim to achieve our targets by 2030. Qualitative sustainability targets have been factored into the compensation systems for the Board of Management and management since 2020. Beginning in 2021, quantitative targets will account for 20% of the long-term variable compensation of the Board of Management and entitled managerial employees.

Progress measurement system

We have defined sustainability indicators to measure progress in the attainment of our Group targets. They help increase the transparency of our efforts and make it easier to steer them. Our “sustainability cockpit” brings together key data in one place and facilitates decision-making by the management. The data is compiled in the countries and centrally validated. At the same time, the cockpit will enable accurate yearly reporting on the new sustainability indicators – because that is the commitment we have made.

// The Sustainability Council

We need a large network to realize our objectives. We will therefore deepen our cooperation with social organizations so as to understand other perspectives and jointly amplify the effects of our efforts. In 2020, we established a Sustainability Council composed of independent experts from around the world. This Council combines knowledge and experience on the issues of biodiversity, digitalization, health systems, the food and agriculture industries, fair trade strategies, women’s rights, sustainable technologies, sustainable finance and transformation strategies.

The nine-member body advises the Board of Management of Bayer AG, oversees the implementation of the sustainability

strategy and transparently reports on its work and gives recommendations, annually submitting a report on our progress. In 2020, the Sustainability Council met several times with Bayer Board of Management Chairman Werner Baumann, additional members of the Board of Management and representatives of the company to discuss topics such as biodiversity, product safety and access to health care. Having personally worked for years on behalf of sustainability, all the members consider it important to help companies become more sustainable – especially if their impact potential is as great as Bayer’s.

More information is available at: [//www.bayer.com/en/sustainability/sustainability-council](https://www.bayer.com/en/sustainability/sustainability-council)

Sustainability Targets up to 2030

Measurement system

- // Dynamics and key data
- // Baseline



Audits

- // Process
- // Documentation

Cockpit

- // Target groups
- // Content




Steering

- // Validation of target attainment
- // Corrective measures

Group targets at a glance

We use these indicators to measure the implementation of our Group targets through 2030. They also serve as the

basis for determining the variable compensation component of the Board of Management and upper management.




Target: 100 million smallholder farmers in LMICs given support

Key figure:
Number of smallholder farmers in LMICs¹ supported by products, services and partnerships

Supporting figures:
// Number of smallholder farmers in LMICs¹ using Bayer's products and services
// Number of smallholder farmers in LMICs¹ benefiting from partnerships

Reference year 2019: 42 million	Target attainment in 2020: 45 million
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Target: Enabling 100 million women in LMICs to gain access to modern contraception

Key figure:
Number of women reached in LMICs¹ who have their need for modern contraception satisfied due to interventions supported by Bayer

Supporting figures:
// Number of women in LMICs¹ using Bayer's modern contraceptives
// Number of women in LMICs¹ using modern contraceptives thanks to information campaigns supported by Bayer

Reference year 2019: 38 million	Target attainment in 2020: 40 million
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Target: Expand access to everyday health for 100 million people in underserved communities around the world

Key figure:
Number of people in underserved regions and social strata with access to everyday health thanks to Bayer

Supporting figures:
// Number of people in underserved communities using Bayer's self-care products and services
// Number of people in underserved communities supported by partnerships initiated and promoted by Bayer

year 2019: 41 million	Target attainment in 2020: 43 million
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Target: Climate neutrality of our sites² and achievement of a Science Based Target

Key figure:
Reduction of Scope 1 and 2³ greenhouse gas emissions by 42 percent and reduction of Scope 3 emissions⁴ by 12.3 percent

Supporting figures:
// 100 percent electricity procurement from renewable sources
// 100 percent offsetting of remaining Scope 1 and 2 greenhouse gas emissions

Reference year 2019: Scope 1 and 2 ³ : 3.76 million CO ₂ equivalents Scope 3 ⁴ : 8.87 million CO ₂ equivalents	Target attainment in 2020: Scope 1 and 2: 3.58 million Scope 3: 7.88 million
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A detailed description of our calculation methods can be found on our website www.bayer.com/en/sustainability/targets

¹ LMICs: Low- and middle-income countries

² In agreement with the Paris Agreement and the target of limiting global warming to 1.5 degrees Celsius compared with the pre-industrial level

³ Covers direct (Scope 1) and indirect (Scope 2, market-based) emissions of Bayer sites whose annual energy consumption exceeds 1.5 terajoules

⁴ In accordance with the criteria set out by the Science Based Targets initiative, the following Scope 3 categories of the Greenhouse Gas Protocol Corporate Value Chain (Scope 3)

Accounting & Reporting Standard are relevant for Bayer in terms of the sustainability target: (1) purchased goods and services, (2) capital goods, (3) fuel- and energy-related activities, (4) upstream transportation and distribution and (6) business travel.

Interview with Matthias Berninger

Systematically implementing sustainability

What general deliberations marked the start of Bayer's new sustainability strategy?

When we began newly formulating our sustainability strategy in 2019, it quickly became clear that Bayer would align itself with the ambitious Sustainable Development Goals (SDGs) of the United Nations. A central role was played by the question of what part sustainability should play in our business strategy. We have defined sustainability as an impact generator; we don't regard sustainability as an accessory with which we adorn ourselves. It is an integral part of our business strategy. We can play a key role with our businesses in sustainably shaping the world, and we view sustainability as a growth driver.

Where can Bayer make a better contribution than other companies?

Four billion people today do not have access to basic health care, while three-quarters of a billion go to bed hungry every night. We want to change that. With globally leading businesses in the fields of health and nutrition, we, more than nearly any other company, can help to improve people's health and safeguard nutrition for the growing world population – fully in keeping with our vision "Health for all, hunger for none."

What role do investors play in the transformation?

Investors help companies to consistently integrate sustainability into their business strategy by demanding quantifiable targets aligned to the SDGs and basing their investment decisions on these targets to the same degree as on financial indicators. The major investors already demand that we do more for climate protection and sustainability. We are also seeing the invisible hand of the market becoming green through the EU's sustainable finance strategy.

What successes can you report so far?

In the summer of 2020, our climate protection targets were confirmed by the Science Based Targets initiative. In the fall of 2020, we were one of just two German companies to receive an A rating from the CDP in the areas of climate change and water security. This shows that our efforts are being acknowledged. We are doing our part to achieve the maximum objective of the Paris Agreement: limiting global warming to 1.5 degrees Celsius. To record and steer our progress as regards the four central sustainability targets, we have established a differentiated measurement system. In the future, 20% of the long-term compensation of Bayer's Board of Management members and upper management will depend on whether we succeeded in attaining these targets. The quantification of the targets and their integration into our compensation system make us a pioneer in this area worldwide. These are initial successes – but we also know much more has to be done.

What climate risks is Bayer especially confronted with?

For us, these mainly exist in the impact climate change has on agricultural production. The most critical resource in that area is water, because it impacts yields. In dry conditions, there is less demand for crop protection products. Other risks include extreme weather conditions such as heat, storms, flooding or fires, which lead to harvest losses, or locusts, which destroy harvests. Yet these climate-related risks also harbor business opportunities for us because they create demand for new products that make crops more resilient to many of these problems. Last but not least, we are also exposed to operational risks such as the disruption of chemical production due to weather conditions.



// **Matthias Berninger,**
Head of Public Affairs, Science & Sustainability

Can you give a specific example of how you are leveraging business opportunities?

One good example is corn crops. With the help of gene editing, Bayer has developed a variety with deeper roots that doesn't grow as high. These plants survived the hurricane in Louisiana, for example, while other varieties simply became bent. We are currently revolutionizing corn breeding by simulating several seasons in giant greenhouses, enabling the utilization of large data volumes. In this way we make corn resilient to storms and drought while at the same time reducing fertilizer input.

Why should stakeholders believe a company like Bayer actually wants to drive the transformation?

The measurability of our targets and their anchoring within our incentivization are evidence of that. Further proof is offered by our external Sustainability Council, which will objectively assess the implementation of our sustainability strategy. What's more, we have intensified our transparency efforts. In 2020, Bayer spent around €5 billion to help achieve more sustainability through innovation. We need the trust of our stakeholders for all of this. Only with their help can we master the transition process.

Performance Report

// **Climate protection targets**

in harmony with the Paris Agreement and net zero emissions by 2050

// **Proportion of women in top management**

*33% by 2025 and
50% by 2030*

// **Sustainability targets**

as part of the variable compensation of the Board of Management

1. The Company

The Bayer Group comprises 385 companies in 83 countries throughout the world and employs 99,538 people. Its headquarters is in Leverkusen, Germany. Sales at the Bayer Group in 2020 amounted to €41.4 billion.

1.1 Corporate Profile

As a life science company, we are a global leader in health care and nutrition. Our innovative products support efforts to overcome the major challenges presented by a growing and aging global population. We help prevent, alleviate and treat diseases. We also aim to ensure the world has a reliable supply of high-quality food, feed and plant-based raw materials. As part of this endeavor, the responsible use of natural resources is always a top priority. In keeping with our vision of “Health for all, hunger for none,” we want to contribute to putting an end to hunger, helping everyone lead a healthy life, and protecting ecosystems at the same time. This is what our purpose stands for, namely “Science for a better life.”

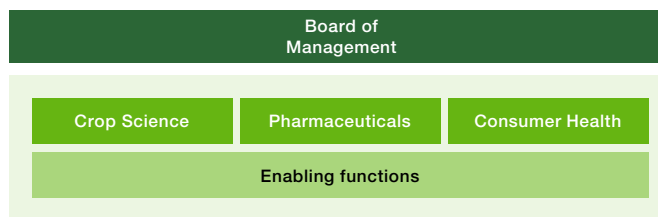
We aim to continuously enhance our company’s earning power and create value for our customers, patients, shareholders, employees and society. Growth and sustainability are integral parts of our strategy, guided by our corporate values of leadership, integrity, flexibility and efficiency ([LIFE](#)). This culture ensures a common identity throughout the Bayer Group. Based on this, our Bayer Societal Engagement (BASE) principles provide clear orientation for communicating with social interest groups.

1.2 Corporate Structure

Corporate structure as of December 31, 2020

As the parent company of the Bayer Group, Bayer AG – represented by its Board of Management – performs the principal management functions for the entire enterprise. This mainly comprises the Group’s strategic alignment, resource allocation, and the management of financial affairs and managerial staff, along with the management of the Group-wide operational business of the Crop Science, Pharmaceuticals and Consumer Health divisions. The enabling functions support the operational business. They serve as Group-wide competence centers and provide business support processes and services.

Structure of the Bayer Group in 2020



The following structural changes occurred within our organization in 2020: The Animal Health business was sold to Elanco Animal Health Incorporated, Greenfield, United States, and has therefore no longer been a part of the Bayer Group since August 2020. Pursuant to the resolution of the Supervisory Board of September 2019, the Board of Management was reduced to five members at the beginning of 2020. Responsibilities were adapted accordingly, with the role of Labor Director, for instance, being transferred to the Chairman of the Board of Management.

In January 2021, the Supervisory Board of Bayer AG announced the appointment of Sarena Lin as a member of the Board of Management. Effective February 1, she took up the new position of Chief Transformation and Talent Officer, assuming responsibility for Human Resources, Strategy and Business Consulting. As a result, the role of Labor Director was also transferred to Lin as of this date.

Crop Science

Crop Science is the world’s leading agricultural enterprise, with businesses in crop protection, seeds and digital farming. We offer a broad portfolio of high-value seeds, improved plant traits, innovative chemical and biological crop protection products, digital solutions and extensive customer service for sustainable agriculture. We market these products primarily via wholesalers and retailers or directly to farmers. In addition, we market pest and weed control products and services to professional users outside the agriculture industry. Most of our crop protection products are manufactured at the division’s own production sites. Numerous decentralized formulation and filling sites enable the company to quickly react to the needs of local markets. The breeding, propagation, production and/or processing of seeds, including seed dressing, takes place at locations close to our customers, either at our own facilities or under contract.

Pharmaceuticals

Pharmaceuticals concentrates on prescription products, especially for cardiology and women’s health care, and on specialty therapeutics focused on the areas of oncology, hematology, ophthalmology and, in the medium term, cell and gene therapy. We have created an independent strategic unit for the area of cell and gene therapy that reports directly

to the head of the division. The division also comprises the radiology business, which markets diagnostic imaging equipment together with the necessary contrast agents. Our portfolio includes a range of key products that are among the world's leading pharmaceuticals for their indications. The prescription products from Pharmaceuticals are primarily distributed through wholesalers, pharmacies and hospitals.

Consumer Health

Consumer Health is a leading supplier of nonprescription (over-the-counter, OTC) medicines, nutritional supplements, medicated skincare products and other self-care solutions in the categories of pain, cardiovascular risk prevention, dermatology, nutritional supplements, digestive health, allergy, and cough & cold. The products are generally sold by pharmacies and pharmacy chains, supermarket, online and other retailers and wholesalers.

We report in more detail on the divisions' products, activities and sales and our sites worldwide in our [2020 Annual Report](#).

1.3 Value Added

By delivering innovative products and solutions, Bayer creates value for its stakeholders at all stages of the value chain. We operate production sites worldwide, invest in research and development, work with international and local suppliers and contribute to the economic development of our target markets. As an employer, we provide jobs in industrialized, emerging and developing economies and therefore create purchasing power through the salaries we pay. We contribute to public finances and thus support public infrastructure through the payment of taxes and other levies.

We define value added as the company's total operating performance in the previous fiscal year (net sales + other operating income + financial income + net income/loss from investments accounted for using the equity method) less the costs of procured and consumed goods and services, depreciation, amortization, impairment losses and impairment loss reversals.

Our total operating performance amounted to €43.7 billion in 2020. The cost of materials and other expenses totaled €36.2 billion. We recorded depreciation, amortization, impairment losses and impairment loss reversals of €13.3 billion. Due to the high special charges in relation to litigations and the impairments taken at Crop Science, we posted a negative value added of €5.8 billion in 2020. For more information, please see our 2020 Annual Report.

Despite the expected negative special items in 2020, we made a positive financial contribution to our stakeholders: employees €9.8 billion, taxes €1.5 billion, providers of equity and debt €1.5 billion and stockholders €2 billion (Bayer AG dividend proposal for 2020).

1.4 COVID-19

Our business was greatly affected by the COVID-19 pandemic in 2020. The health and safety of our employees and the provision of our products and medicines to patients, farmers and consumers has – as always – top priority.

Our business activities were affected in various ways by the protective measures taken worldwide and by the uncertainty associated with the pandemic. You can read more about this in the [2020 Annual Report](#). Owing to the COVID-19 pandemic, most of our conferences, workshops, training courses, audits and meetings in 2020 took place virtually.

To make an important contribution to fighting the COVID-19 pandemic, Bayer signed a collaboration and service agreement with the biopharmaceutical company CureVac N.V., Germany, at the beginning of 2021. Within this collaboration, we will provide support to CureVac for the further development and provision of the COVID-19 vaccine candidate CVnCoV and for local activities in selected countries. We will contribute our expertise on the operational implementation of drug trials, regulatory tasks, pharmacovigilance activities, medical information and supply chain activities, and provide the corresponding infrastructure. We will also deploy our manufacturing network to contribute to vaccine production. We plan to supply 160 million doses of the vaccine in 2022. The first doses from our production could potentially be available by the end of 2021.

To prevent the health crisis arising out of the pandemic also causing a hunger crisis for many farmers, we supported more than 1.5 million smallholder farmers in 15 countries in 2020 with seed and crop protection products. [We help smallholders](#) in regions threatened particularly by food shortages with agricultural know-how and market access for agricultural produce, thus encouraging an increase in food production in these regions. Our measures to combat the consequences of COVID-19 supplement our strategy for supporting smallholder farmers to strengthen the agricultural sector in low- and middle-income countries ([LMICs](#)) in the long term.

Further details of our measures in connection with the COVID-19 pandemic can be found in chapters Focus on: Agriculture, 6 Employees, 8.6 Occupational Health and Safety, 8.10 Emergency and Crisis Management and 9 Foundation and Charity Activities.

2. Corporate Governance

Bayer is committed to responsible corporate governance. By adhering to laws, safeguarding values and strengthening our reputation, we aim to secure our company’s long-term success and to foster a high level of trust among all stakeholders. Our endeavors in this regard are further supported by our increased focus on sustainability aspects in all processes and at all levels of the company.

2.1 Corporate Governance Practices and Principles

Bayer AG is subject to German stock corporation law and therefore has a dual governance system consisting of the Board of Management and the Supervisory Board. The Board of Management manages the company based on a transparent strategy that is geared toward its long-term success and complies with applicable laws and ethical standards. The Supervisory Board oversees and monitors the Board of Management.

Corporate governance practices that go beyond the legal requirements are derived from our vision and our common values, which form the basis for the respectful working relationship among our employees and with our external partners. Compliance with responsible practices at every stage of the value chain is crucial in corporate governance. The main guidelines are summarized primarily in our corporate policies on compliance, human rights, and fairness and respect at work, as well as in our Supplier Code of Conduct and the

Bayer Societal Engagement (BASE) principles. The organization and oversight obligations of the Board of Management and the Supervisory Board are mainly ensured by compliance management and risk management systems.

In our [2020 Annual Report](#), we report in detail on the main elements of the Bayer Group’s corporate governance structures and conformity with the recommendations of the German Corporate Governance Code, relevant corporate governance practices, the composition and procedures of the Board of Management, the Supervisory Board and their committees, and the Compensation Report along with the objectives to be defined and the underlying concepts.

2.2 Our Ethical Principles (BASE)

As a leading health care and agriculture company, we bear a great responsibility. To ensure that we meet current societal expectations, we introduced the Bayer Societal Engagement (BASE) principles in 2019. Set out in a publicly available corporate policy, these principles establish how we interact worldwide not just with our employees, but also with patients, customers, consumers, business partners, political stakeholders, scientists, critics and our stockholders. In this way, we want to live up to our social responsibility as a sustainably acting and transparent company that is respected for its contribution to progress in health care and agriculture. We want to listen, understand, take concerns seriously and engage in respectful dialogue – especially where this is difficult or uncomfortable.

The BASE principles are grounded in our purpose “Science for a better life,” our vision “Health for all, hunger for none” and the Bayer LIFE values of leadership, integrity, flexibility and efficiency. The principles describe our actions in eight areas:

- // Our engagement with society
- // Our guiding principles and core values
- // How we drive innovation
- // How we act in the workplace
- // How we conduct our business
- // How we interact with our customers, patients and the consumers of our products
- // How we interact with media, legislators, regulators and civil society organizations
- // How we interact with shareholders

2.3 Transparency

As our products and activities concern the sensitive areas of health and nutrition, they lead to inquiries and the desire to understand what we do. Against this background, we endeavor to build and strengthen trust – for which transparent conduct is essential. For example, we disclose information from various areas of our work and openly communicate how the safety of our products is assessed.

We supply information about our transparency efforts in the following areas, for instance:

- // We make detailed disclosures on, for example, material and project expenses and headcount of the national liaison offices in the transparency registers of the European institutions and the U.S. Congress, for instance. We also report data for countries in which there is no legal disclosure obligation. For more information, please see Chapter 2.5 Compliance and our [website](#).
- // Through the [Transparency at Crop Science](#) website, we grant public access to safety-relevant studies that regulatory authorities use to approve crop protection product registrations.
- // We publish information on planned and ongoing clinical patient trials on our [Clinical Trials](#) website.
- // In relations between the pharmaceutical industry and physicians, other healing professions and health care organizations, Bayer ensures compliance with the EFPIA (European Federation of Pharmaceutical Industries and Associations) Disclosure Code.
- // In a bid to generate more transparency around our scientific collaborations and thus increase trust in science, we are launching the Bayer Science Collaboration Explorer in the spring of 2021. In this publicly accessible database, we will publicly disclose new contract-based collaborations with universities, public institutions and affiliated individuals. The pilot phase will begin in Germany before gradually being rolled out in other countries around the world.

For more information on our transparency initiative, please see our [website](#).

We transparently shape our corporate governance in accordance with the German Corporate Governance Code. For more information, please see our [2020 Annual Report](#).

2.4 Steering and Management Systems

Planning and steering

The Board of Management uses defined, primarily nonfinancial targets and key performance indicators to steer the company's sustainable orientation. In 2019, the Board of Management adopted an advanced sustainability strategy along with new nonfinancial Group targets and key performance indicators (see also the Sustainability Strategy section). In 2020, the corresponding framework was translated into specific targets for the individual divisions. Nonfinancial Group targets are now integrated into the Bayer Group's planning and steering process as management and key performance indicators.

Our Group-wide sustainability targets are integrated into the compensation system for the Board of Management. In so doing, we aim to continuously increase value for stockholders and other stakeholders and ensure the continuity of our company for the long term. For 2020, qualitative nonfinancial targets derived from the sustainability strategy were incorporated into the short-term variable compensation of the Board of Management. From 2021, quantitative targets derived from the sustainability strategy will be integrated into the long-term variable compensation of the Board of Management with a weighting of 20%.

For more information on Board of Management compensation in 2020, please see the Compensation Report (Chapter 4.4) in the [2020 Annual Report](#). Details of the financial indicators we employ to plan, steer and monitor the development of our business are given in Chapter 1.2.3 Management Systems of the 2020 Annual Report.

Integrated management system

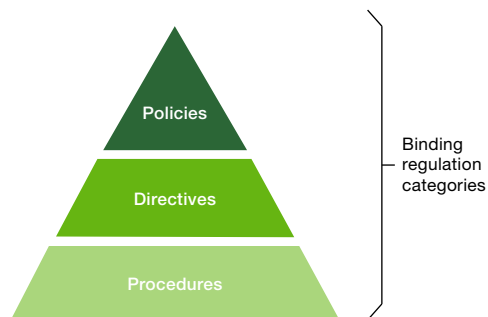
Bayer maintains an integrated management system (IMS) comprising process management, management of internal regulations, effectiveness testing and continuous improvement. All of the requirements are specified in a corporate policy. The IMS provides a framework for all management systems at Bayer, ensuring compliance with the law and with internal and external requirements while also ensuring efficient ways of working. This is achieved through internal regulations and applicable processes involving clear roles and responsibilities. As such, it facilitates effective risk management and helps to safeguard the company's license to operate.

Within the IMS, each organizational unit – such as Quality; Health, Safety & Environment; Risk Management and Public Affairs, Science & Sustainability – is responsible for ensuring that its own management system is in line with business needs and with applicable legal and regulatory requirements.

As part of the IMS, Bayer has established a clearly defined set of rules, which includes fundamental principles and framework conditions, standards of conduct, guidelines and methods. Moreover, these are binding requirements that include legal and regulatory requirements.

Our binding internal regulations at Group level serve as key management instruments and are classified in three categories: corporate policies (highest importance covering global interdisciplinary content, and relevant for all employees), corporate directives and procedures.

Corporate Regulations



2.5 Compliance

Bayer manages its businesses responsibly and in compliance with the statutory requirements and regulations of the countries in which it operates. We define compliance as legally and ethically impeccable conduct by all employees in their daily work, because the way they each carry out their duties affects our company's reputation. We do not tolerate any violation of laws, codes of conduct or internal regulations. Compliance is essential for our long-term commercial success.

Bayer compliance management

The Board of Management is unreservedly committed to compliance, and Bayer will forgo any business transaction that would violate any of the 10 principles in our [Corporate Compliance Policy](#) observed throughout the Bayer Group. These principles are as follows:

- // We compete fairly in every market.
- // We act with integrity in all our business dealings.

- // We balance economic growth with ecological and social responsibility.
- // We observe trade controls that regulate our global business.
- // We safeguard equal opportunity in securities trading.
- // We keep accurate books and records.
- // We treat each other with fairness and respect.
- // We protect and respect intellectual property rights.
- // We act in Bayer's best interest.
- // We protect and secure personal data.

All employees are required to observe the compliance principles and to immediately report any violation of the Corporate Compliance Policy. Infringements are sanctioned. This applies in particular to managerial employees, who, for example, may lose their entitlement to variable compensation components and be subject to further disciplinary measures if violations have occurred in their sphere of responsibility. Compliant and lawful conduct is also factored into the performance evaluations of all managerial employees.

The global compliance management system is steered by a central compliance organization within the Bayer Group. This organization is headed by the Group Compliance Officer, who, in this capacity, reports directly to the Chief Financial Officer (CFO) and to the Audit Committee of the Supervisory Board. The CFO is responsible for the compliance organization, while the Audit Committee of the Supervisory Board oversees the effectiveness and further development of compliance within the Group. Within the compliance organization, specialized compliance managers are responsible for establishing business-, industry- and country-specific standards.

Potential compliance risks (such as corruption) are identified together with the operational units to ensure the systematic and preventive detection and assessment of risks. Potential risks are then entered into global databases that we use to develop suitable measures for specific processes, business activities or countries, for example. In addition, we assess our business partners according to risk criteria as we look to identify potential compliance risks.

Adherence to the corporate compliance principles is among the subjects covered in audits conducted by Bayer's Internal Audit and in the analyses and investigations by the legal and compliance organization. The heads of these organizations provide regular reports on the findings of the audits and analyses to the Audit Committee of the Supervisory Board, while summary reports are presented at least once a year.

The planning of these audits by Internal Audit follows a function- and risk-based approach that also takes the [Corruption Perceptions Index](#) of Transparency International into account. Function-specific audits are conducted worldwide across all important corporate units, such as for marketing and distribution. The larger businesses and units are audited at shorter intervals, and the smaller units at longer intervals. A total of 90 audit reports were compiled in 2020, of which 11 concerned preventive compliance system audits or incident-related investigations. The reduction in the number of audit reports compared with 2019 (125 audit reports) was primarily due to travel restrictions caused by the COVID-19 pandemic. In addition, not all audits can be carried out remotely as an alternative.

Handling of suspected and actual compliance violations

Suspected compliance violations can be reported – anonymously if desired and if permitted by respective national law – to a central, worldwide [compliance hotline](#) that is also accessible to the general public. In 2020, the compliance

organization received a total of 345 reports in this way (including 226 anonymous reports), with 18 reports coming from Germany and 327 from other countries. Alternatively, suspected violations may also be reported to the respective compliance functions or to Internal Audit.

Compliance violations include all possible types of infringements of internal and external requirements and are systematically sanctioned. The action taken depends on factors including the gravity of the violation and applicable law. All cases are recorded according to uniform criteria throughout the Bayer Group and dealt with under the rules set forth in Bayer's Management of Compliance Incidents corporate policy. Where an investigation confirms that a compliance violation has occurred, the company has a graduated set of measures at its disposal. These include a verbal warning or written reprimand, transfer to a different unit, cancellation of a planned promotion, a reduction in the short-term incentive payment, downgrading to a lower collectively agreed pay rate or managerial contract level, and ordinary or extraordinary termination. Bayer also reserves the right to assert further claims against the employee for cost reimbursement or damages and/or to initiate criminal proceedings.

Compliance training and communications activities

We support all employees in acting with integrity and proactively avoiding potential violations by implementing Bayer-wide training measures and communication campaigns that are tailored to target groups and based on identified needs. The Corporate Compliance Policy forms the basis of our compliance communication and training activities. Both supervisors and compliance managers are available to answer employees' questions about lawful and ethical behavior.

In 2020, around 94% (38,132) of Bayer's managerial employees worldwide completed at least one compliance training program. Furthermore, we launched a new web-based training program in 89 countries covering the giving and accepting of gifts as well as interactions with public officials and health care professionals, with these topics also addressed in our Corporate Compliance Policy. The video training program is available in 10 languages (English, German, Spanish, Portuguese, Dutch, French, Italian, Russian, Japanese and Chinese) and had been completed by around 65% (81,550) of our employees as of December 31, 2020.

In 2020, we introduced a company-wide "speak up" communication campaign with the goal of fostering an open culture for reporting compliance violations.

Data privacy

Data is very important in today's world – it is often accessible worldwide and its financial value is growing. As a result, people have an increasing interest in their data remaining secure. Bayer is committed to protecting the personal data of all its stakeholders, be they employees, business partners, stockholders, suppliers or customers. Fulfilling this commitment is an important business principle and a central condition for the company's success.

Since there is no globally binding data privacy law, legislation varies widely from country to country. To establish a standard for all countries in which Bayer operates, a Group-wide approach is required. This is the only way to ensure personal data is afforded sufficient protection while at the same time facilitating efficient business processes.

The Data Privacy corporate policy sets out minimum requirements for the way personal data is processed throughout the Bayer Group. Bayer strives to protect people's privacy and prevent their data from being misused. We are aware of the potential harm caused by unlawful data processing and have therefore established a standard to minimize this risk.

The data privacy management system addresses risk situations that are relevant to the company's business. The system covers the entire data life cycle: from collection, transfer, analysis and storage to deletion. The core elements of the data privacy management system – the maintenance of a processing registry, the management of data leaks, inquiries from affected individuals and risk mitigation – are mandatory. Training and guidance along with system-based monitoring ensure the regulations are adhered to.

Marketing compliance and the validity of recognized standards

We do not tolerate any improper exertion of influence on our business partners. As part of our compliance management system, we record and investigate any suspected violation of our responsible marketing principles, irrespective of whether the complaints come from internal or external sources.

The most important Bayer corporate regulation in this context is our Anti-Corruption corporate policy, which is supplemented by the rules of conduct for responsible marketing. Furthermore, we are committed to ethical advertising and communication for all our products and services.

Directives and corporate regulations are also in place at Bayer to prevent price fixing and ensure data protection. Where several regulations are applicable, we fundamentally comply with the more stringent standards. The respective corporate regulations and training programs are implemented in the divisions and enabling functions.

Industry codes for pharmaceutical products and medical devices that have been adopted by major national and international associations and organizations also apply to marketing and distribution at Bayer. In many countries, these standards are further underpinned by local codes – all of which apply to prescription pharmaceuticals and some of which also apply to nonprescription medicines, dietary supplements, medical devices and medicated skincare products.

All codes of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) serve as a binding minimum global standard for all of Bayer’s human pharmaceutical products in their area of application. In addition, Bayer observes the codes of the European Federation of Pharmaceutical Industries and Associations (EFPIA) in its interaction with health care professionals and patient organizations. Regarding the advertising of human pharmaceutical products, Bayer complies with the regulations set out in the IFPMA Code of Practice as the minimum global standard along with those set forth in regional and national codes.

The aforementioned codes contain provisions governing, among other matters, advertising materials, the distribution of samples, cooperation with members of specialist groups in connection with speaker and consultancy contracts, and scientific studies. Pharmaceuticals observes the applicable transparency rules (e.g. the Physician Payments Sunshine Act in the United States) and participates in voluntary programs such as the EFPIA Disclosure Code.

In line with the principles of sustainable development and the responsible use of crop protection products and seeds, Crop Science follows the guidelines of its [Product Stewardship Commitment, Principles and Key Requirements](#). This policy, which also satisfies our rules of conduct for responsible marketing, is based on the International Code of Conduct on Pesticide Management issued by the Food and Agriculture Organization (FAO) of the United Nations and the International Code of Conduct on Plant Biotechnology issued by CropLife International.

Relevant training measures on product-related communication, antitrust law, data protection and anti-corruption are fundamental elements of our compliance management system. Principles communicated in these training courses provide an overview of globally applicable minimum requirements for cooperation with key stakeholders, including in particular those in the health care industry such as physicians, hospitals or patient organizations. In addition to explaining general compliance principles, the anti-corruption courses provide specific advice on approaches to nonreciprocal benefits and the exchange of services with health care professionals.

Lobbying

Bayer’s commitment to ensuring transparent lobbying forms part of our BASE principles. In line with this, our [Code of Conduct for Responsible Lobbying](#) sets out binding rules for our involvement in political matters, covers compliance-relevant risks and creates transparency in our interactions with the representatives of political institutions.

As set out in this corporate regulation, Bayer as a company does not make any donations to political parties, politicians or candidates for political office. An exception to this rule exists in the United States, where donations to candidates

and politicians are part of the political culture. Direct and indirect donations by companies to political candidates and parties are prohibited at the federal level. Against this background, employees of numerous companies support individual candidates for parliamentary office by making private donations through political action committees, or PACs. These voluntary donations are made only by employees, not the company. PACs are separate, segregated funds governed by employees and further regulated by the U.S. Federal Election Commission and some state governments.

Decisions on how these contributions are allocated are made by an independent committee composed of employees. At BayPac, the name of the corresponding committee at Bayer, new allocation criteria were introduced in 2020 to reflect societal challenges, among other factors. For example, candidates’ positions on issues such as climate change and the protection of biodiversity play an important role here. BayPac also undertakes to support candidates from both parties. These donations are subject to stringent conditions and mandatory transparency measures. The BayPac contributions are regularly reported to the U.S. [Federal Election Commission](#) (FEC). Full details can be viewed on the FEC website. BayPac does not support presidential candidates. A total of US\$458,550 was donated to political candidates at all levels through BayPac in 2020.

In view of its activities at numerous sites in the United States, Bayer has decided to make corporate donations at the state level. These amounted to a total of US\$499,850 at the state level in 2020.

In other countries, industry associations of which we are a member (such as the German Chemical Industry Association) sometimes make donations on their own responsibility in observance of the respective statutory regulations, and particularly laws concerning political parties.

For Bayer, national liaison offices are key touchpoints between the company and political stakeholders. We publish details of material costs, project expenses, employee numbers and any of the other statistics required in each country, for example in the transparency registers of the [European institutions](#) and the [U.S. Congress](#). In doing so, we go beyond the statutory requirements. For instance, we also publish data for countries such as Germany where there is no legal disclosure requirement. In 2020, the costs incurred at the liaison offices totaled approximately €2 million in Berlin, Germany; €2.4 million in Brussels, Belgium; €8.5 million in Washington, D.C., United States; €0.3 million in Moscow, Russia; €1 million in Brasília, Brazil; and €1.6 million in Beijing, China.

2.6 Tax

Bayer's tax concept, which we refer to as our [Approach to Tax](#), sets out our management approach and tax strategy and is based on the following guidelines:

- // We place great importance on transparency and verifiable compliance and reporting standards.
- // Our tax considerations are driven by business needs.
- // The taxation of our earnings takes into account global value chains.

For global companies like Bayer, it is in their own vital interest that they pay adequate taxes in countries in which they operate, as this is the only way to ensure public funding is available for necessary investments in education, infrastructure and social standards, as well as for promoting innovation.

Bayer's Approach to Tax, which can be viewed on our website, summarizes the main aspects and principles of our internal tax policy. Updates to the tax policy are reviewed and approved by the head of Group Finance and the Group CFO.

Bayer observes the applicable regulations and the associated disclosure obligations. These efforts may include the involvement of external experts or consultation with the respective tax authorities, for example. These principles additionally apply whenever service providers are commissioned. As the continuous further development of tax legislation is also in our interests, we participate in the political discourse while observing the stipulations of the code of conduct and our BASE principles (see Chapter 2.2 Our Ethical Principles (BASE)). Ethical conduct is of paramount importance, and employees are encouraged to voice any concerns they might have, address problems and put our values into practice. Suspected compliance violations can be reported via the central compliance hotline (see Chapter 2.5 Compliance).

Tax risks are accounted for in the Bayer Group's global risk management system (see also Chapter 2.7 Risk Management), which is overseen by the Board of Management of Bayer AG. As an element of financial reporting, it is also subject to regular review by the external auditor. In this connection and in observation of the legal requirements, Bayer separates corporate auditing from tax consulting so as to rule out conflicts of interest in advance.

2.7 Risk Management

As a global life science enterprise, we are exposed to a wide range of internal and external developments and events that could significantly impact the achievement of our financial and nonfinancial objectives. Opportunity and risk management is therefore an integral part of corporate management at Bayer.

We have implemented a holistic and integrated risk management system designed to ensure the continued existence and future target attainment of the Group through the early identification, assessment and treatment of risks. Our risk management system is aligned to internationally recognized standards and principles such as the ISO 31000 standard of the International Organization for Standardization.

The Board of Management of Bayer AG holds overall responsibility for an effective risk management system. The Audit Committee of the Supervisory Board examines the appropriateness and effectiveness of the risk management system at least once a year and reports thereafter to the full Supervisory Board.

The Bayer Assurance Committee, which is chaired by the CFO, is a committee of the Board of Management. As well as ensuring that appropriate action is taken to control any substantial risks, the Bayer Assurance Committee regularly discusses and reviews the risk portfolio and the status of the risk control measures.

Responsibility for the identification, assessment, treatment and reporting of risks lies with the operational business units in the divisions and enabling functions. Risks are identified by risk owners in those areas. Where possible, the identified risks are evaluated with regard to their potential impact and likelihood of occurrence while taking into account established risk control measures. To support the fullest possible identification of risks, we maintain a risk universe that reflects the company's potential risk categories. The Bayer Risk Universe, which is regularly updated, expressly accounts for risks of a nonfinancial nature that are linked to our business activity or to our business relationships, products and services. Risks pursuant to the CSR Directive Implementation Act that relate to environmental, employee and social issues, human rights, corruption and bribery (compliance) are included as well.

Detailed information on the basic elements of the risk management system, including the risk management process, and details on our risk status are provided in the [2020 Annual Report](#) in the Opportunity and Risk Report.

Material legal risks are described in the 2020 Annual Report under Note B [30] Legal Risks.

2.8 Sustainability Management

Sustainability is an integral element of our corporate strategy. Our sustainability strategy represents our enhanced focus on increasing the overall societal impact of our business activities. The Chairman of the Board of Management assumes responsibility for this strategy in his role as Chief Sustainability Officer. He is supported in this role by the Public Affairs, Science & Sustainability enabling function.

This function identifies areas of activity and develops strategies, targets, key performance indicators, management systems and corporate regulations and is responsible for compiling the Sustainability Report.

Operational implementation takes place in the divisions and along the value chain. Each of our divisions has an established sustainability organization, with sustainability aspects also being integrated into the processes of the enabling functions.

The attainment of sustainability targets will also be integrated as an additional parameter into the long-term variable compensation (LTI) of eligible managerial employees from 2021, similar to the compensation of the Board of Management.

Our commitment to the U.N. Global Compact and the Responsible Care™ initiative of the chemical industry and our involvement in the World Business Council for Sustainable Development (WBCSD) underline our mission as a company that acts sustainably.

Sustainability Council

A major element of our intensified sustainability efforts in 2020 was the establishment of an independent [Sustainability Council](#). This comprises nine internationally recognized experts from the areas of health care, nutrition, agriculture and the environment, representing a broad range of views, differing geographical origin and different genders. The Sustainability Council advises the Board of Management in the further development of its business strategy as regards sustainability and with respect to what contribution research

and development can make to sustainability. The contributions of the Sustainability Council inform our strategic planning going forward. It will also independently examine the progress made by Bayer in the implementation of its sustainability targets. The Council additionally examines the support of social innovations through the Bayer foundations. Another goal for the nine experts is to promote cooperation with networks in society, education, industry and politics. The Sustainability Council convenes twice a year for deliberations and reports annually on the progress of its work. The Chairman and other members of the Board of Management also attend these meetings. The body's work kicked off with two virtual meetings in 2020.

Materiality analysis

We determine the expectations and requirements of the various stakeholders using a materiality analysis that surveys global representatives of important stakeholder groups, managerial staff and nonmanagerial employees. The results thereof reveal relevant issues, the latest developments, along with sustainability-related opportunities and risks, and help us to assess them accordingly. The survey of external stakeholders also reflects how our sustainability performance is perceived, which enables us to identify weaknesses and areas for improvement.

At the next stage, Bayer managers supplement the assessment of issues of relevance from an external perspective with an estimation of the impact the company has on the environment, employees and health in each respective topic area. Finally, the issues prioritized on this basis are approved by the Board of Management.

Results of the Materiality Analysis

Stakeholder Relevance (external perspective)	Very high		// Climate Protection // Protection of the Environment // Innovation // Business Ethics // Product Stewardship // Sustainable Food Security // Access to Health Care	
	High	// Human Rights // Safety	// Employees // Supplier Management	
	Moderate	// Stakeholder and Community Involvement		
		Moderate	High	Very high
		Bayer Relevance (internal perspective)		

The following stakeholder groups were included in the stakeholder survey:

Surveyed Stakeholder Groups	
Residents near Bayer sites	Politicians and public authorities
Banks	Rating agencies
Bayer management	Nongovernmental organizations (NGOs)
Consultants/corporate auditors	Associations
Investors	Representatives/distribution partners
Customers	Competitors
Suppliers	Scientists/universities/schools
Media	Other

The materiality analysis serves to meet external requirements in accordance with the CSR Directive Implementation Act (CSR-RUG), the German Commercial Code (Sections 289b to e) and the GRI Standards.

In accordance with the GRI Standards, the following two dimensions were among the factors applied for the identification and prioritization of key issues:

- // Impact of Bayer's business operations on economic, social or environmental matters
- // Impact on decisions by Bayer stakeholders

The results of the internal and external viewpoint survey were combined in a materiality matrix.

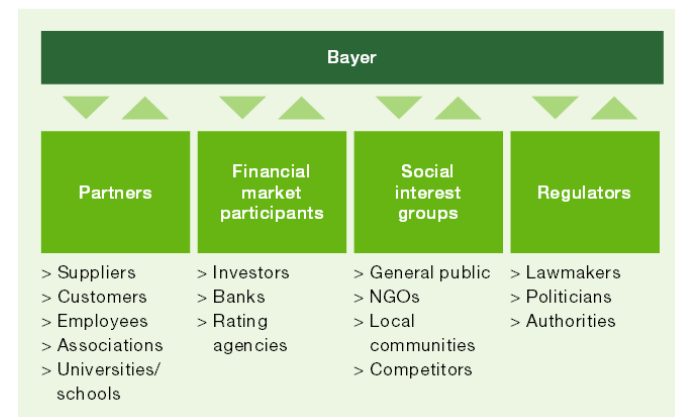
The areas of activity in the current materiality analysis are accounted for in our sustainability strategy and determine the focal points of our sustainability management approach and our nonfinancial Group targets. For detailed information on innovation, please see the 2020 Annual Report.

2.9 Stakeholder Dialogue

As a company, Bayer is part of society and public life. Ongoing dialogue with our stakeholders is therefore particularly important to us. After all, their expectations and viewpoints affect our public acceptance and thus our commercial success. This is also reflected in our BASE principles (see also Chapter 2.2 Our Ethical Principles [BASE]).

We fundamentally distinguish four stakeholder groups with which we engage in discussions on different issues.

Stakeholder Groups



This dialogue helps us to recognize important trends and developments in society and our markets at an early stage and take this information into account when shaping our business. The integration of various stakeholder groups is planned within the scope of our stakeholder engagement process. This process also includes an evaluation of the results of individual dialogue measures.

In strategic decision-making processes such as investment projects and product launches, Bayer approaches key social and political players right from the start of a new project to canvass their support. Such open dialogue enables us to identify opportunities and risks early on. This process is in line with our Stakeholder Engagement Guideline and is supplemented by an internal information platform.

Focus on a variety of stakeholders

Our regular stakeholder activities range from dialogue at the local, national and international level and active involvement in committees and specialist workshops all the way through to comprehensive information programs, issue-related multi-stakeholder events and participation in international initiatives and collaborations.

The selected topics described below provide insights into our engagement with respect to our most important stakeholder groups.

Throughout the last year, we held intensive discussions with journalists and politicians, scientists and supervisory authorities, consumers and shareholders, civil society organizations, farmers and neighbors. We not only discussed topics such as agriculture and nutrition, climate change and biodiversity, but also combating poverty and family planning. Examples include our virtual event series Future of Farming Dialogue 2020, the World Food Convention about food security, the Sustainable Investor Summit, which included the topic of sustainable agriculture, the EURACTIV Conference on Transparency in EU Policymaking, including in relation to glyphosate, the 18th International Dialogue on Population and Sustainable Development on ensuring the right to sexual and reproductive self-determination during the COVID-19 pandemic and the 2020 Concordia Summit, which included a session on Fixing Our Food & Nutrition Systems.

Various live discussions on socially relevant issues were held in the social network LinkedIn – including in areas where Bayer is viewed critically. Examples include discussions on Earth Overshoot Day and the planetary boundaries. We participated in numerous other discussion events as well. These

included dialogues on food security at the Munich Security Conference and on innovation at the annual meeting of the World Economic Forum, as well as stakeholder dialogues on sustainability during the U.N. General Assembly.

The increasing interest of the capital market in sustainability topics was reflected in our talks with investors and rating agencies in 2020. These conversations revolved around questions related to our sustainability strategy focusing mainly on climate protection, our Group targets and the role they play in management compensation, the tasks of the Sustainability Council, and the effects of our products on the environment – especially as regards crop protection products and genetically modified plants. Other important topics were the integration of Monsanto and especially the Group's response to the COVID-19 pandemic.

We prioritize being a reliable partner that is aware of its societal responsibility toward the communities adjacent to our sites. To this end – at our production sites in particular – we maintain open dialogue between local management and community members, which is supported by the respective country organization. This dialogue involves personal discussions with residents, citizens' initiatives, representatives of religious communities and the regional press. This community dialogue is anchored in a globally valid corporate policy on site management.

We also engaged in everyday dialogue with our customers in 2020, particularly as regards their satisfaction with our products and services. Our divisions navigate very different regulatory frameworks. For example, direct contact between Pharmaceuticals or Consumer Health and the respective customer environment, and especially patients, is regulated

in different ways for each division. With regard to the collection of customer satisfaction data, different legal requirements apply to prescription medicines from Pharmaceuticals than to nonprescription medicines, for example. The primary market research and data research that must be conducted, including systematic internet analysis, strictly adheres to the legal requirements, which can vary significantly depending on the market.

At Crop Science, customer centricity is achieved by way of the several hundred initiatives of the Food Chain Partnership throughout the value chain and through BayG.A.P. This capacity building program is implemented with food chain partners in many of these initiatives, and through Bayer ForwardFarming, a global collaboration with farmers. These programs center on innovative crop solutions and services for sustainable agriculture. We also address the most significant challenges facing humankind. In this regard, we forge alliances with NGOs, value chain partners and the public sector, and jointly develop new solutions – for example to prevent the spread of pathogens such as TR4 (tropical race 4) on banana plants or to control plagues of locusts.

For more information on dialogue with stakeholders, please see the chapters 2.8 Sustainability Management, 3 Product Stewardship (Commitment), 4 Procurement (Developing suppliers), 5 Human Rights (Commitment) and 6 Employees (Dialogue and exchange) and our [sustainability website](#).

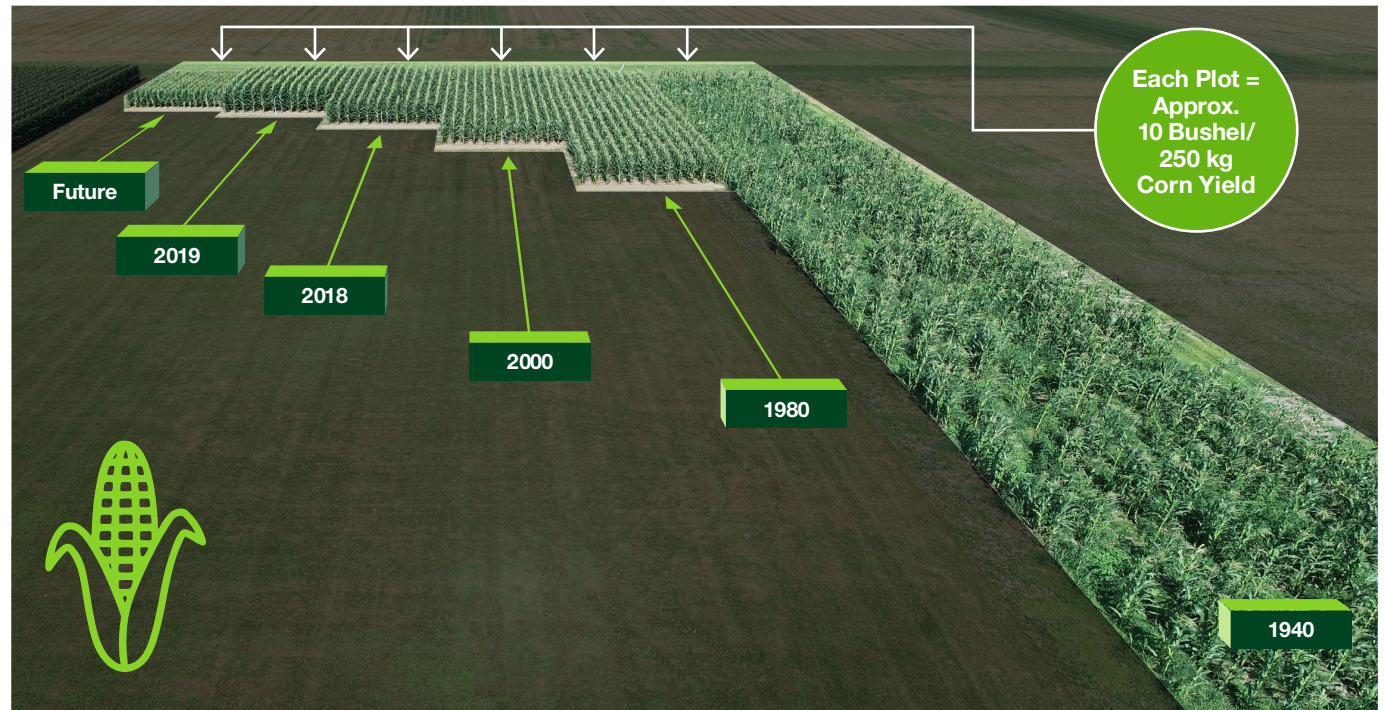
Focus on: Agriculture

Challenges and approaches

Global agriculture and food systems are confronted with major challenges, such as climate change, water scarcity and population growth. Scientists and U.N. organizations expect the world population to grow to around 10 billion by 2050 – an increase of around two billion relative to 2020. In addition, both the Food and Agriculture Organization (FAO) of the United Nations and the World Resources Institute (WRI) envisage a 50% increase in the demand for food, animal feed and biofuels by 2050. The demand for animal-based protein and thus also for animal feed is expected to increase further, especially in the emerging markets. At the same time, the already limited farmland will decline due to climate change, water problems, soil erosion and other factors. The agricultural sector therefore has to meet the needs of a growing population while at the same time promoting sustainability and protecting our ecosystems.

Sustainable intensification

Intensive agriculture with high yields per hectare of farmland is a crucial factor for ensuring the continued availability of high-quality and affordable food. That's because agricultural intensification will lead to less and less land being required for food production. While agricultural yields have grown by 60% over the past 40 years, the amount of agricultural land has increased by only 5%. This productivity increase was made possible by technological developments in the areas of plant breeding and – since the 1990s – plant biotechnology, fertilization, irrigation and crop protection. Insecticides



and fungicides have played a part in minimizing harvest losses. Crops compete with weeds for water, nutrients and light; herbicides help to reduce this competition.

Bayer helps farmers cultivate more food for a growing population while at the same time reducing the environmental impact of agriculture. Digital technologies play an important

role here, as do improved seed and good agricultural practices. To reduce harvest losses caused by insect pests, competitors for nutrients or fungal infestation, we combine our high-performance seeds with the targeted use of crop protection products. We can therefore offer farmers a selection of these innovations and recommend optimal combinations that enable the use of agricultural production factors at

the correct time and place. For more information on the responsible use of crop protection products and the application of digital farming technologies, please see Chapter 3.6 Product Stewardship – Crop Science.

Our innovations in the areas of plant breeding and crop protection are designed to further improve both the quality and the quantity of harvests and enhance plants' resilience against insect pests, diseases and a changing climate. For more information on our innovations, please see Chapter 1.3 of the [2020 Annual Report](#).

Intensified farming certainly has also led to a local decline in species and in some [ecosystem services](#) – in other words, the beneficial effects people derive from ecological systems – due, for example, to the removal of structural landscape elements, the narrowing of crop rotation systems or certain agricultural practices such as excessive use of crop protection products or fertilizers. We invest in research and development so as to attain an improved balance between productivity and conserving biodiversity and ecosystem services. For more information on our activities to conserve biodiversity, including pollinator insects, please see chapters 3.6 Crop Science and 3.7 Biodiversity.

Plant breeding

[Plant breeding](#) (including of hybrid cultures) plays a key role in achieving high agricultural yields. Bayer supports the responsible use of different cultivation techniques.

In selective plant breeding, existing species of a crop (e.g. corn) are crossed to transfer the desired qualities to the next generation of plants.

Our scientists combine large volumes of genomic, phenotypic and environmental data for selective breeding in plants to develop some of the most high-performance seed products in the world. We use test series to determine whether the desired traits have been transferred to the following generations.

Our greenhouse- and field-based product testing and our scalable data analysis and automation functions give us additional insight into the unique characteristics of our products, such as plants' ability to thrive during water scarcity. This enables us to give our customers tailored recommendations that take into account factors such as the climatic circumstances of a region.

Targeted breeding: genome editing

Crop Science employs new breeding methods that contribute to the development of modern varieties better suited to their environments, making it possible to farm more sustainably.

One targeted breeding approach is a molecular biology process known as genome editing, which is largely based on improving plants' characteristics by leveraging their existing genetics; for example, deactivating unfavorable qualities (such as disease vulnerability) or supporting beneficial qualities (such as drought tolerance or improved nutrition). The use of modern breeding methods including [CRISPR-Cas](#) can improve the efficiency and precision of plant cultivation and contribute to the development of the new crop varieties needed to sustainably secure the supply of safe, affordable and healthy food.

Short stature corn

One example of the possibilities offered by new breeding techniques is our [short stature corn](#), which we intend to commercialize in the coming years: Through breeding, plant biotechnology and genome editing, we have succeeded in developing seed varieties that enable the growth of shorter corn plants that have the potential to not bend or break as easily as corn plants of regular height in the presence of strong winds or heavy rain. Losses in the United States due to bent plants amount to between 5 and 25% a year depending on the severity of weather events. Short stature corn also has the potential to enable a more optimized uptake of water and nutrients such as nitrogen through the less pronounced development of the other plant parts.

Plant biotechnology

Plant breeders use the genetic biodiversity of plants to generate new and unique plant varieties and hybrids for farmers.

Plant biotechnology (genetic modification) can then be employed to transfer genes and their associated beneficial traits from one organism to another. Genetically modified crops provide substantial agronomic, economic and ecological benefits: They can help farmers to increase productivity despite difficult growing conditions by protecting harvests from pests and weeds while consuming fewer natural resources. Farmers in large and small enterprises from industrialized and developing countries alike can benefit from genetically modified crops, especially corn, soybeans, cotton and oilseed rape/canola. According to information from the nonprofit organization ISAAA (International Service for the Acquisition of Agri-biotech Applications), crops that are the product of modern biotechnology are grown on more than 190 million hectares in over 29 countries.

Bayer specializes in high-quality seeds with groundbreaking traits that offer not just higher yields, but also improved weed control and more effective defense against insects. Our genetically modified plants containing Bacillus thuringiensis (Bt) control specific insect pests attempting to directly feed on the plant. Other insects such as bees and additional pollinators are not harmed by Bt plants. The deployment of these plants can considerably reduce the use of broad-spectrum insecticides.

Our herbicide-tolerant plants are tolerant to certain herbicides such as glyphosate or dicamba. This enables weeds in fields to be eliminated using herbicides without damaging

the crops. Using these plants enables farmers to reduce or completely forgo tillage as a method of weed control and instead use techniques such as plowless soil tillage, which is applied in particular in North and South America. In combination with good practice such as the cultivation of cover crops, plowless soil tillage has a positive impact on soil health. It reduces erosion, facilitates the development of humus and thereby ensures increased storage of carbon in the soil. This in turn reduces the release of greenhouse gases from the soil that can contribute to climate change. Furthermore, farmers need less fuel for tillage when there is no plowing requirement.

The development and approval of genetically modified seeds are subject to comprehensive international guidelines and stringent national laws and regulations. The safety of genetically modified crops has been confirmed by numerous studies, which have been evaluated by regulatory authorities in 70 countries. There are fears in society that genetically modified plants could spread throughout the environment and thus negatively impact plant biodiversity. However, cross-pollination between a genetically modified plant and a wild one would require the plants to be very closely related. Various studies demonstrate that the introduction of genetically modified crops has not negatively affected crop biodiversity.

Preserving plants' integrity

Breeding for conventional and ecological farming requires measures to preserve the plants' integrity and thus maintain seed quality. This means that the uncontrolled pollination or cross-breeding of plants must be prevented.

Pollen flight plays a key role here, including as regards genetically modified seed. For example, in our breeding of corn, an open pollinated crop, it is essential to be aware of and to limit the possible spread of the pollen under different conditions. Detailed agricultural practice requirements are in place for our own sites and those of our seed producers to prevent inadvertent pollination. These rules are spelled out in our publicly accessible Technology Use Guide for corn, soybeans, oilseed rape/canola and other row crops. Among other information, it contains provisions for planting at a prescribed distance to other fields of the same crop type or planting at different times to prevent simultaneous pollination in two fields.

There is no evidence that local or native plants are reduced in the unlikely event of inadvertent cross-pollination between genetically modified and nongenetically modified plants from the same species. There is also no evidence that seed diversity has decreased because of the introduction of genetically modified crops. After reviewing more than 900 studies, the U.S. Academies of Science published a report in 2016 stating that it did not see any indication that the genetic diversity of major seed varieties in countries such as the United States had declined due to the introduction of genetically modified seeds. The number of available seed varieties had instead declined already during the 20th century due to strong demand for high-yielding seeds.

3. Product Stewardship

Assuming responsibility for our products, from medicines to complex solutions for agriculture, is always at the core of what we do. They should be of the highest quality and contribute to a better life. This means that neither their development and manufacture nor their disposal should cause damage to people and the environment. For this reason, we strictly conform to regulations and laws all over the world.

3.1 Management Approach

For us, product stewardship means that our products satisfy the highest quality standards and are safe for people, animals and the environment when properly used. Not only do the desired properties of substances and products need to be taken into consideration but also the possible risks for people and the environment. We respect legal requirements, and our voluntary commitment and internal standards go beyond these in a variety of areas. Bayer has put in place suitable directives and management systems to implement regulatory and voluntary product stewardship requirements. These are steered by our Corporate Health, Safety & Environment enabling function and the quality functions of the divisions.

3.2 Regulatory Conditions

Bayer's finished products, such as pharmaceuticals, crop protection products, seeds and biocides, are subject to very stringent regulations prescribing specific and detailed approval and authorization procedures.

As a result, our products cannot be sold on the market until they have been approved by a competent authority or an official registration has been granted. The prescribed efficacy and safety of the individual products must always be demonstrated as proven as a condition of their approval. An approval therefore only applies for a particular product with the formulation registered in the marketing authorization. Changes in the product composition (such as new formulations for crop protection products) require an additional authorization or registration.

Wherever there is no dedicated crop protection legislation in a given country, Bayer has made a voluntary commitment to distribute there only those crop protection products whose active ingredients are approved or registered in at least one OECD country to ensure that their safety has been adequately verified. For more information, please see Chapter 3.6 Crop Science.

In addition to the regulation of finished products, extensive statutory regulations also apply to the chemical substances handled by Bayer during product manufacture. Chemical substances are subject to the respective regional chemical regulations. These include REACH in the European Union, the Lautenberg Chemical Safety Act (formerly TSCA) in the United States and the Measures for Environmental Management of New Chemical Substances (Order No. 7) of the Ministry of Environmental Protection (MEP) in China. To fulfill these requirements, we have approved Group-wide and division-specific policies.

Authorities, in the European Union for example, review the implementation of obligations resulting from chemicals legislation through regular inspections. To meet these obligations, we require our suppliers to acknowledge conformity with REACH for all substances they supply to us. The classification and labeling of chemicals enables users to become informed about the risks associated with chemicals. Bayer implements the Globally Harmonized System (GHS) for the classification and labeling of chemicals worldwide.

Besides the regular registration obligation, REACH can also entail an additional authorization procedure that can lead to the replacement of, or a ban on the use of, particularly hazardous substances. Already registered substances are also regularly evaluated by the authorities. For Bayer substances this can result in additional testing requirements, new risk management measures or inclusion in the REACH authorization procedure. To date, only one Bayer substance has been affected, for which authorization has already been granted.

The requirements of MEP Order No. 7 in China are similar to those of REACH in the EU, although MEP No. 7 in China provides for greater grandfathering of products that are already on the market.

In the United States, all substances must be approved in accordance with the Lautenberg Chemical Safety Act and accompanied by information required pursuant to the standard Hazard Communication (29 CFR 1910.1200) of the U.S. Occupational Safety and Health Administration.

Voluntary assessment of substances handled

We voluntarily apply comparable standards around the world, independent of the respective national legislation. For all handled substances with an annual volume of more than one metric ton that are not subject to the REACH regulation, we have (voluntarily) undertaken to successively provide comparable minimum data sets on ecotoxicology and toxicology. This data enables the hazard potential of all substances (> 99%) we use in quantities exceeding one metric ton per year to be assessed. By the end of 2020, we had already assessed 95.18% (2019: 93.4%) of these substances.

3.3 Assessments and Testing

Our substances and finished products undergo extensive assessment and testing to ensure product efficacy and safety. We examine possible health and environmental risks along the entire value chain and use this to derive appropriate measures to mitigate risks.

The safety of our products is the top priority. As early as the research and development stage, we assess the properties of our active ingredients and all other substances that are contained in a product and could thus impact the properties of a finished product (e.g. additives that support the actual active ingredients). We discontinue the development of active ingredients with undesirable properties in application of the precautionary principle as defined in Principle 15 of the Rio Declaration of the United Nations and Communication COM (2000) 1 of the European Commission. There should not be a unilateral focus on hazard potential, but rather a balanced benefit-risk evaluation.

All active ingredients emerging from research are subjected to further extensive testing and assessments at the development stage that include (legally prescribed) animal studies. For more information, please see Chapter 3.4 Animal Welfare. We also conduct environmental risk assessments or implement risk management measures for our active ingredients subsequent to their registration. Moreover, we help to raise questions about the impact of active ingredients in the environment and to have them addressed through sound risk assessments and analyses.

We carry out the risk assessments for our substances according to recognized scientific methods such as those described in the Guidance on Information Requirements and Chemical Safety Assessment of the European Chemicals Agency (ECHA). Should the analysis reveal that the use of a certain substance is not safe, we take steps to mitigate risk. These can vary from revised application recommendations to substitution of a substance. In this case, a replacement that is economically and technically viable needs to be sought. The substitution of chemicals is basically a continuous task for the chemical and pharmaceutical industry in its endeavors to generate new or substantially improved products and processes. This is integral to our commitment to [Responsible Care™](#). The applicable assessment steps are established in a corporate regulation.

Strict international and national laws and regulations also control the official approval and therefore development of crop varieties and plant traits and the recognition and commercialization of seeds and planting material. This also encompasses genetically modified seeds. We meet all regulatory requirements of the countries in which we distribute our crops. Extensive and intensive safety reviews of the environmental and health risks for people and animals are conducted at all stages of the product development process from early development onward. The results of these are incorporated into the approval/authorization procedures. Our corporate regulations on the responsible use of genetic

engineering and biosafety together with processes stipulated at Crop Science in the Product Stewardship Commitment, Principles and Key Requirements corporate regulation, supplement the legal and regulatory requirements.

Processes are established throughout the company to address inquiries about product safety or problems with products of ours that are already available on the market. This feedback is also integrated into our risk assessment. More information about the products of the Pharmaceuticals and Consumer Health divisions can be found under Pharmacovigilance (see Chapter 3.8 Pharmaceuticals and Consumer Health) and about the (crop protection) products of the Crop Science Division in Chapter 3.6 Crop Science.

Information on substances and products

Bayer compiles safety data sheets for all chemical substances used, regardless of whether or not this is required by law. Safety data sheets are the central tools of communication for safety-relevant information about substances and mixtures in the supply chain. Targeting professional users, they contain information on a substance's properties and on using it safely. In addition, technical information is provided for professional use.

Appropriate packaging information is provided for all end consumer products, an example being package inserts for pharmaceuticals.

In accordance with the respective product safety and information obligations, we compile product information for raw materials, intermediates and end products, and make this information available across the company worldwide.

Commitment

We are actively engaged in product stewardship activities through our work in relevant associations and initiatives. Since 1994, Bayer has supported the Responsible Care™ initiative of the chemical industry and the associated Responsible Care™ Global Charter. We actively participate in the further development of scientific risk assessment and are involved in several associations – such as the European (CEFIC), U.S. (ACC) and international (ICCA) chemical industry associations and the OECD – and in initiatives such as the European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC).

3.4 Animal Welfare

Animal studies are legally required and essential from a scientific viewpoint for assessing the safety and efficacy of our products. We aim to minimize the use of study animals and to employ alternative methods whenever possible.

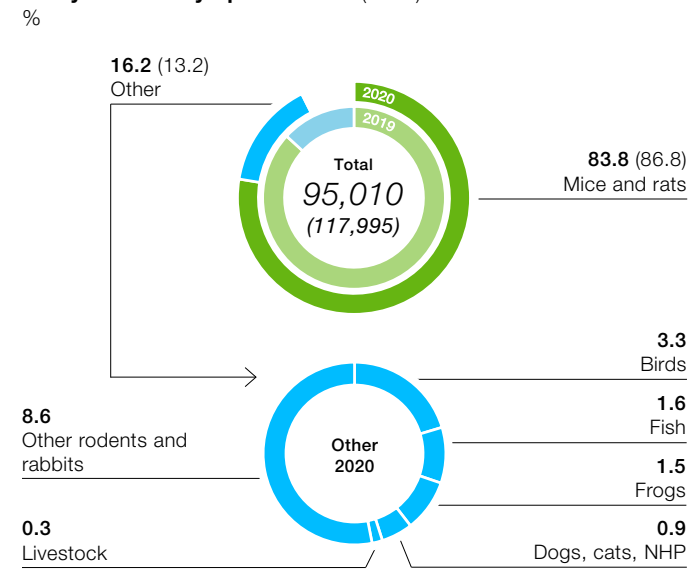
Responsibility for animal welfare at Bayer lies with the Bayer Global Animal Welfare Committee. We respect all legal requirements pertaining to animal welfare, compliance with which is verified both by regulatory authorities and by means of internal audits. In addition, Bayer applies its own principles on animal welfare and animal studies, which are specified in a corporate regulation we published in 2020. The Global Animal Welfare Committee monitors compliance with these principles within the Bayer Group and in external studies. Our principles also apply to the research institutes we commission and to our suppliers, whose compliance with our animal welfare requirements we regularly monitor.

Commitment to reducing animal studies

In early drug screening, Bayer continuously establishes different computer-based and in-vitro processes that help reduce the number of animal studies or the impact on animals in subsequent testing. Included in this are our activities in connection with organ-on-a-chip, a biochip method used to simulate organs in a cell culture. We also actively participate in internationally renowned consortia, projects and validation programs geared toward achieving replacement methods, one example being the IMI-eTRANSafe project: The focus is on examining the extent to which control animals can be replaced in toxicological studies through the simulation of “virtual control groups” using existing data sets. This could reduce the number of animal studies by up to 25% in the medium term. In addition, a recent breakthrough in the field of three-dimensional bioprinting may have a positive impact on the amount of animal studies conducted. Scientists at Tel Aviv University managed to print a miniature heart using human tissue. In cooperation with Bayer, research is now being conducted to establish the degree to which organs produced with this technology could be used in various medical tests in the future, thus potentially further reducing the need for animal studies.

Applying performance indicators, we analyze the development of animal numbers, the distribution according to species and the impact on our test animals each year, while evaluating studies and discussing possible steps in accordance with the 3Rs principle (replace, reduce, refine). The total number of study animals used in 2020 (including animals in Bayer studies performed by contract research organizations) was 95,010, compared with 117,995 in 2019.

Study Animals by Species 2020 (2019)



3.5 Protection against Product Counterfeiting

Product counterfeiting is an enormous problem worldwide, due particularly to the increase in e-commerce. We endeavor to resolutely and effectively prevent counterfeiting so as to ensure access by our customers to our safe and effective original products, protect our innovations and intellectual property rights, reduce potential financial damages for Bayer and safeguard the company’s reputation. The basic principles of our strategic actions against counterfeit or otherwise illegal products and the corresponding organizational implementation for all divisions are defined in a corporate policy.

Product counterfeiting can only be addressed internationally through a joint approach by industry, associations, governmental agencies and nongovernmental organizations. We advocate the resolute application and, where necessary, the tightening and expansion of existing laws and provisions that serve to enable the identification and confiscation of illegal products. We support these efforts through extensive measures of our own in the areas of production and packaging development that are designed to also enable our customers to distinguish original products from counterfeits.

Crop Science

The production, sale and distribution of counterfeit crop protection products take place within globally organized criminal networks, and the negative effects are amplified by numerous opaque internet offers. The use of counterfeit crop protection products poses an increased risk for human health and the environment because their contents do not correspond with the products formulated by Bayer and approved by the regulatory authorities or do not contain approved active ingredients. Counterfeit seeds often do not possess the traits chosen by farmers upon purchase. Illegal seeds treated with unknown chemicals can also present a risk for people and the environment.

Innovative packaging technology: CapSeal

It is becoming increasingly difficult for those who use crop protection products to distinguish between an original and a counterfeit product. Bayer is thus the first producer of crop protection products to enable farmers to clearly identify original products through CapSeal technology. The closure seal has optical security features and a QR code that users can scan with an interactive smartphone app to receive important information about the product's authenticity. CapSeal is found on the packaging of all Bayer crop protection products that are filled in bottles

and sold in the Europe/Middle East/Africa and Latin America regions, as well as parts of Asia/Pacific. In 2020, we began expanding CapSeal technology to include solids and seeds packaging.

We support association initiatives and work closely with crop protection and law enforcement authorities to prevent the introduction of counterfeit products to the market by criminal networks. Our activities in the area of crop protection products are currently focused particularly on cooperation with the Chinese customs authorities to identify counterfeit products when attempts are being made to export them from China and to stop this. In 2020, we identified patent and trademark infringements in China, India and Brazil, and successfully asserted our legal rights.

Counterfeit products, and especially counterfeit crop production products, are transported on a large scale by ocean freight. That's why Bayer has been cooperating for a number of years now on a cross-industry basis with leading shipping companies to jointly identify counterfeit and illegal products, prevent their transport and notify the responsible authorities for further prosecution.

We conduct our own inspections in the market worldwide and keep a record of all signs of suspicious and potentially counterfeit or illegal products.

On the [Counterfeits in Agriculture](#) website, we provide our customers with information on how to identify counterfeit and illegal crop protection products or seeds and what risks they harbor. The site also gives farmers tips on how to protect themselves against counterfeiting.

Pharmaceuticals and Consumer Health

Counterfeit products that imitate the medicines of our Pharmaceuticals and Consumer Health divisions harbor considerable risks for patients and consumers. For this reason, Bayer has established binding policies in its uniform Group-wide quality management system for reporting, registering, investigating and escalating potential pharmaceutical counterfeiting. Together with the responsible pharmaceutical regulatory authorities, we initiate the necessary measures based on investigation results and the serious nature of each case. These measures range from notifying business partners and medical specialist groups to recalling products impacted by counterfeiting at the appropriate recall level.

Through the [Beware of Counterfeits](#) campaign, Bayer is actively addressing the problem of counterfeit pharmaceuticals together with public authorities in Germany and abroad. The website of the same name contains information on the risks of counterfeit pharmaceuticals and offers tips on how patients can protect themselves against counterfeiting. In coordination with the regulatory authorities, the website also provides information on actual pharmaceutical counterfeiting incidents and explains how patients can distinguish the counterfeit items from our original products.

In addition to the process established in the quality management system, we are currently implementing a data management tool for the corporate security and legal functions. It contains assessments and reports on activities by law enforcement authorities in connection with pharmaceutical counterfeiting that were triggered by information and analyses we submitted.

The Falsified Medicines Directive of the European Union specifies requirements and measures for the verification of original pharmaceuticals. This includes mandatory security features on external packaging, which Bayer has used for its prescription products since 2019. These data matrix codes are stored in country-specific databases across the EU. Wholesalers and pharmacies can verify the products' authenticity by simply scanning the code. Security features of this kind are also used in additional countries, such as China. In other countries, such as the United States, these security features are already implemented for pharmaceutical manufacturers and are being successively expanded to include additional market participants in the distribution chain. Bayer supports and actively supports these measures with the goal of ensuring standardized protection of patients against pharmaceutical counterfeiting in as many countries as possible. For years now, we have also voluntarily employed tamper-evident closures for our prescription medicines and many of our nonprescription products as well to prevent packaging manipulation.

To make the supply chain for pharmaceutical products safer, Bayer participates in the binational Security for Pharmaceuticals Transportation (s4pt) research program of the German Ministry of Education and Research and the Austrian Ministry of Transport, Innovation and Technology.

Within the [PharmaLedger](#) – Blockchain Enabled Healthcare project of the Innovative Medicines Initiative (IMI), we advocate for the implementation of a block chain platform in the European Union that would simplify the exchange of data beyond the pharmaceutical value chain and irrespective of the various systems. The goal of this initiative is to improve the products' full traceability and thus combat pharmaceutical counterfeiting. Bayer has assumed the leadership role in this project regarding its practical use in the supply chain.

We are also actively working to define and structure the anti-counterfeiting use case to facilitate the identification of original pharmaceuticals by all market participants, including patients, across platforms and technologies. We are also actively involved in the [Pharmaceutical Security Institute](#), an alliance in which pharmaceutical companies provide mutual support in detecting product-counterfeiting-related crimes.

3.6 Crop Science

Before crop protection products and technologies can be introduced to the market, it must be demonstrated that they are harmless to people and can be used without exposing the environment to an unjustifiable risk. They therefore require official approval, which is governed by numerous international and national laws and regulations. We test products in compliance with the applicable official regulations and perform extensive risk assessments. We also observe the import regulations for the importing countries and acquire product approvals in countries in which the products are due to be marketed.

Crop Science works continuously to improve its products and develop solutions for sustainable agricultural practices. The focus of these efforts is on optimizing product benefits for our customers and applying the findings from product monitoring. For us, product stewardship begins at the research and development stage of a new product, continues through its production, marketing and safe use and ends with disposal, for example of product packaging.

We have specified our principles of responsible product management in our [Product Stewardship Commitment, Principles and Key Requirements](#) corporate regulation. It is based on established and internationally recognized standards

such as the International Code of Conduct on Pesticide Management issued by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), the guidelines of the crop protection association [CropLife International](#), and the guidelines of the industry initiative [Excellence Through Stewardship](#) (ETS) for seeds and traits. This initiative promotes, for example, the introduction of product stewardship programs and quality management systems for seeds throughout the life cycle and entrusts independent outside experts with the performance of audits to verify that member companies are complying with its guidelines. Our plant biotechnology sites in Mexico, Honduras, Colombia and Costa Rica were recertified for the product stewardship programs in 2020.

We present our principles for responsibly handling our products throughout their life cycle based on our key requirements in the sections below.

Online transparency platform

Transparency is very important to Bayer, especially with respect to the safety of our products. Through transparency, too, we intend to strengthen our customers' and stakeholders' confidence in our products. Bayer was the first company in the agriculture industry to make safety-relevant data on crop protection products and genetically modified crops publicly available. Summaries of scientific studies assessed by the European Food Safety Authority (EFSA) in connection with the registration procedures for 29 of our crop protection active ingredients are available on our online transparency platform, including toxicological and ecotoxicological studies and investigations into degradability. As of 2020, we have also published summaries of scientific studies for 16 biotechnology traits within our seeds business that were previously evaluated by the responsible regulatory authorities in the United

States. Comprehensive reports on the registration studies for the approval of our crop protection products and genetically modified crops are available on specific request. The platform is continuously updated to provide the most recent status of safety-relevant information on crop protection products and genetically modified crops as well as information on plant breeding.

Furthermore, through the OpenLabs program initiated in 2020, we offer the public the opportunity to observe our scientists during a two-day event as they carry out a safety registration study. Here, the participants learn how we collect data on the safety of our crop protection products by complying with guidelines such as Good Laboratory Practice (GLP). As it currently is not possible to visit our Monheim site due to the COVID-19 pandemic, we are examining options for replacing these tours with a virtual visitor platform.

Research and development

We use the latest knowledge and technologies to develop products and services so that we can continuously optimize their efficacy, productivity and safety for people and the environment.

As part of the testing process, chemical and biological crop protection products are examined early in the development phase with regard to their mode of action, their (eco)toxicological properties and the extent of potential residues in plants and the environment to ensure that only those

products with the best safety profile are developed further. To determine risks more precisely, we perform extensive safety testing as defined by law.

The development of genetically modified seeds is also subject to extensive international guidelines and stringent national laws and regulations. We have specified internal processes in a corporate regulation to ensure a responsible approach to biotechnologically manufactured products throughout their life cycle. For more information on plant breeding and genetically modified seed, please see the Chapter Focus on: Agriculture.

Production, packaging, storage and transport

Health, safety, environmental protection and quality are a top priority for Bayer at all its sites around the world, including at the Crop Science sites where crop protection or seed products are produced. A health, safety and environment (HSE) management system with uniform standards applies Group-wide. Product manufacture at Crop Science is performed according to the quality management standard ISO 9001. For more information, please see Chapter 8 Environmental Protection and Safety. As with our suppliers, we expect our third-party producers to conduct their business with Bayer in accordance with the requirements of our Supplier Code of Conduct. For more information, please see Chapter 4 Procurement. We ensure that our products are adequately packaged and are stored and transported according to the applicable legal and regulatory requirements. For more information, please see Chapter 8.9 Transportation and Storage Safety.

Marketing, sale and distribution

In its distribution of crop protection products and technologies, Crop Science observes the International Code of Conduct on Pesticide Management of the Food and Agriculture Organization (FAO) of the United Nations. Our principles are established in our Product Stewardship Commitment, Principles and Key Requirements corporate regulation. In addition, since 2012, we have no longer sold WHO Class 1a or 1b agricultural crop protection products despite continued formal authorization to do so.

We did not apply for and receive marketing authorization in the European Union for all our crop protection products even if the active ingredients or finished products are manufactured in the EU. The export of these crop protection products means they are used in plants that are not extensively cultivated in the EU and therefore not demanded by farmers. It is also possible that the area of application (such as fungal or pest infestation) does not apply in the EU because the relevant climatic conditions are rare or nonexistent. The conditions for farmers – for example, as regards climatic conditions, cultivated crops, prevailing plant diseases and pests, and approved and available crop protection products – vary from one country to the next. This is also reflected in the requirements of the respective regulatory authorities.

We regularly review the products we offer in emerging markets and developing countries with respect to the applicable specifications for ensuring the safety of our products and reducing the risks associated with their use. We voluntarily withdraw such products from the market if identified risks cannot be sufficiently limited.

To ensure the safe use of our crop protection products based on adequate research, we made an important voluntary commitment in 2016: We market only those crop protection products whose active ingredients are registered in at least one OECD country, or, in the case of new active ingredients, for which an OECD data package has been compiled. Internal processes were established to comply with this voluntary commitment. In the future, we aim to set even higher standards. We are therefore reviewing new procedures to introduce crop protection products in emerging markets only if they satisfy both the local safety standards in the respective country and the requirements of leading relevant regulatory authorities.

For the marketing of genetically modified seeds, we have established internal processes and defined the requirements for the responsible use of biotechnology in our Product Stewardship Commitment, Principles and Key Requirements corporate regulation.

We provide our customers with comprehensive, transparent and reliable information about our products and services in accordance with our corporate Responsible Marketing & Sales Policy. Users of our products can contact us through a range of communication channels should they have complaints or inquiries or wish to report any incidents. These include both direct contact with our sales staff as well as hot-lines as printed on our product packaging. We register external incidents or complaints involving our crop protection and seed products and process them with the aid of a dedicated management system. If necessary, we undertake measures ranging from labeling changes to product recalls in line with our key requirements.

Counterfeit products harbor substantial risks for users and the environment. For more information on our strategy for preventing product piracy, please see Chapter 3.5 Protection Against Product Counterfeiting.

Integrated crop management for pest and resistance management

Crop Science supports the implementation of integrated crop management measures that combine various strategies for controlling weeds, pests and plant diseases in farming. This overall concept is tailored to the special challenges facing farmers, and it enables them to unlock their full economic potential while at the same time minimizing the environmental impact of their farming activities. We offer a broad portfolio of innovative chemical and biological crop protection solutions, high-value seeds and data-driven application solutions and recommendations that help farmers protect their crops safely and responsibly in accordance with the particular requirements of the fields, crops and soils.

Bayer ForwardFarming initiative

Crop Science promotes and supports ecological enhancement measures in agriculture and the recovery and protection of natural and semi-natural habitats. Together with farmers and scientific experts, we are working to find solutions to preserve biodiversity e.g. through the [Bayer ForwardFarming initiative](#). ForwardFarming promotes the implementation of sustainable agriculture in practice across a global network of independent agricultural operations.

On Bayer ForwardFarms, we show how sustainable agriculture involving integrated crop management and resistance management can be put into practice. In these representative operations, farmers demonstrate modern

cultivation techniques, approaches to applying seeds and crop protection products, and the action they take to handle resources responsibly. The ForwardFarms promote dialogue with users and enable the worldwide exchange of ideas and findings among various stakeholder groups. There are currently 24 Crop Science ForwardFarms spread across Europe (20), Latin America (3) and Asia (1).

Responsible use of crop protection products

Through targeted training courses, we show farmers, seed treatment professionals and distributors how to use our products both effectively and safely to maintain healthy plants and increase the yield and quality of their harvested goods. Our objective is to continuously increase the outreach of our training activities, in part through more widespread use of digital media in the future.

The training courses convey contents such as safe handling of our products during transport, storage and disposal, the correct use of protective clothing, and first aid measures in the event of emergencies. The training topics can be adapted for a certain target group, a crop plant being used in cultivation or a particular product according to local requirements. Our training materials are available in various formats – from on-site presentations to brochures, videos, posters, manuals and live chats. In addition to special training measures for farmers and those who use crop protection products, we also combine training activities with events such as product launches or field days to reach a large number of farmers and distributors. Our training videos on the safe handling of crop protection products are also available [online](#).

In 2020, Crop Science replaced numerous on-site personal training activities with virtual measures due to the COVID-19 pandemic. It was thus able to increase the number of farmers trained to around 1.7 million farmers worldwide. We focused our training activities on countries where there are no statutory certification requirements for farmers concerning the handling of crop protection products. For this reason, training participation was highest in Asia, followed by African countries and Latin America. Our partnerships allow us to increase the reach of the activities and conduct joint events, for example with universities, information centers or local, regional and international associations.

As part of Bayer's Safe Use Ambassador initiative launched in 2017, we enter into partnerships with universities and offer students annual training in the safe use of crop protection products, with a focus on safety for users and the environment. The goal is for the students to share their new knowledge with farmers during internships on farms. In 2020, Bayer organized workshops on the safe handling of crop protection products for the students and faculty members of 51 universities in 12 countries, especially in Asia.

Crop Science additionally trains farmers in various technical areas regarding the correct use of individual products. This includes training as mandated by the U.S. Environmental Protection Agency (EPA) as a condition of registration for products containing the herbicide dicamba for use in dicamba-tolerant soybean and cotton crops. This training course was developed in cooperation with other dicamba herbicide registrants and governmental certification authorities.

Successful completion of the training enables farmers to purchase and apply any dicamba products registered for use in dicamba-tolerant soybean and cotton crops. More than 57,000 users in the United States completed this certification in 2020, 50% of whom were trained by Bayer.

Product stewardship for glyphosate

The nonselective herbicide glyphosate is used in many countries for effective, simple and cost-effective weed control. The active ingredient was first introduced in 1974 and has since been marketed under a number of different tradenames in hundreds of crop protection products by several dozen different companies worldwide. In Europe, glyphosate-based herbicides are most frequently used according to the label to control weeds in various field crops. According to the label, applications include weed control in gardens and noncultivated areas, such as in industrial complexes and along railway tracks. Glyphosate works in plants by specifically inhibiting an enzyme that is essential to plant growth. This enzyme is not found in cells of humans or animals.

Combining glyphosate with crops that could withstand applications of this herbicide transformed agriculture. Farmers who cultivate glyphosate-tolerant crops tend to adopt conservation tillage, which brings its own benefits in terms of reduced soil erosion, improved water quality and lower carbon dioxide (CO₂) emissions. In agricultural systems where glyphosate-tolerant crops are not available, glyphosate provides benefits for farmers and the environment by simplifying weed management and reducing the need for mechanical tillage and enabling the adoption of cover crops. Outside of agriculture, glyphosate delivers benefits for noxious or invasive weed control. Glyphosate degrades in the environment and does not accumulate in the food chain. It is not volatile and will bind to soil after application rather than run off into waterways.

Glyphosate has a proven track record of more than 40 years of safe use when used according to label directions. This is confirmed by science-based evaluations conducted by regulatory bodies such as the European

Food Safety Authority (EFSA) and the German Federal Institute for Risk Assessment (BfR) and other leading regulatory authorities such as the U.S. Environmental Protection Agency (EPA) and the Canadian governmental authority for pest control belonging to the Department of Health (Health Canada Pest Management Regulatory Agency [PMRA]). The most extensive agricultural epidemiological study ever with detailed information on glyphosate use, the Agricultural Health Study published in the Journal of the National Cancer Institute in 2018, also found no association between the use of glyphosate-based herbicides and the occurrence of non-Hodgkin lymphoma. The study followed more than 50,000 licensed applicators of crop protection products for more than 20 years.

Glyphosate's favorable environmental safety profile underlies its ability to be used in many diverse settings. Detailed reviews by the EFSA, PMRA and other regulatory authorities have concluded that approved uses of glyphosate-based herbicides are unlikely to cause adverse effects on the environment. In the United States, EPA scientists reached the same conclusion following their primary environmental review and have initiated a final step in the reregistration process to ensure current uses account for potential effects on endangered species.

This is a standard review for all pesticides in the United States and can take several years to complete. Bayer scientists are reviewing the draft report on endangered species and look forward to engaging as part of the public comment period.

Extensive information on the public discussion surrounding the safety of glyphosate for users and the environment is available on our website. For information on the lawsuits against Bayer in the United States, please see

the Notes to the Consolidated Financial Statements in Bayer's 2020 Annual Report.

It is of central importance for Crop Science to offer farmers a broad range of solutions to improve the sustainability and productivity of their operations.

Glyphosate will continue to play an important role in agriculture and in our product range. As one-size-fits-all solutions do not account for nature's needs, however, we plan to invest around €5 billion in the current decade to research additional weed control methods and thus provide farmers with more options in the future.

Furthermore, as a member of the European Glyphosate Renewal Group (GRG), we also take measures to ensure more transparency. For example, we make information such as the complete application for renewal of registration in the EU, the minutes of meetings with regulatory authorities and the summarizing dossier from 2012 available online. We plan to offer the public insight by opening up our laboratories as soon as it is possible to do so safely in view of the COVID-19 pandemic. In 2020, the GRG undertook significant, transparent steps to renew the substance's registration: At the beginning of June, it submitted the new scientific glyphosate dossier to the Assessment Group on Glyphosate (AGG), which is composed of the regulatory authorities of France, Hungary, the Netherlands and Sweden, acting jointly as Rapporteurs for the four EU member states. We made the dossier, which the AGG checked for completeness and was therefore formally permissible, available to the public for the first time on glyphosate.eu. The AGG has begun the scientific review and evaluation.

Use of digital technologies

For Bayer, digital farming is an important tool for creating a better balance between productivity and environmental conservation. The goal of digital farming is to use resources such as water, fertilizer and crop protection products more efficiently and sustainably.

The application of these new technologies enables a reduction of the resources needed for plant production and also promotes the safe and responsible use of crop protection products. For example, the use of satellite and drone data already allows slight differences in the field to be accounted for and crop protection products to be individually and precisely applied in the required amount (zone and spot spraying).

In 2020, Crop Science continued its strategic partnership with Chinese drone producer XAG for the use of this technology, including for the targeted treatment of field crops. We have established two guidelines for the safe use of drones: one for the conduct of internal trial demonstrations and one for commercial application, meaning the application of crop protection products in customers' fields using drones. In various countries, we carry out corresponding training courses for our employees and those of our research partners. For example, in 2020 we joined with local partners to train more than 200 Bayer employees and over 1,000 external users in China in the safe use of drones.

Sensors on the latest tractors and harvesters can supply important information on soil conditions and plant health. This and further data is incorporated into the digital applications developed by the digital farming business of Crop Science – [The Climate Corporation](#) – to help farmers achieve more efficient and sustainable agricultural operations.

Our digital farming platform Climate FieldView™ enables farmers to improve their yields through data support. This takes place through the sensor-based collection and storage of large volumes of machine-generated agronomic data directly at the farmers' accounts. The application of this data not only helps farmers, but also creates substantial advantages for the environment. Thanks to precision agricultural machinery and digital tools, inputs such as seeds, water, fertilizer and crop protection products are only used when and where they are necessary. Climate FieldView™ is currently available in North America, South America, Turkey, South Africa and Europe.

Water protection

The avoidance of crop protection product discharges into water bodies is an important aspect of sustainable agriculture. Alongside point source discharges into water bodies that can occur during the filling and cleaning of spraying devices, diffuse substance discharges from treated acreages can also play a significant role. That is why many of our training measures for farmers also focus on protecting bodies of water through the correct use of our products.

To avoid point source discharges, Crop Science recommends the use of biological remediation systems such as Phytobac™. This is designed to prevent water contamination with residues of crop protection chemicals generated during the filling and cleaning of spraying devices or the disposal of residual liquids. The system is already used in many EU countries and offered commercially by various third-party manufacturers. More than 5,000 Phytobac™ systems are currently in operation in Europe. Pilot facilities have also been implemented in Australia, Canada, China, Thailand, Argentina, Brazil and Colombia.

In collaboration with external partners, Crop Protection is also developing a digital geoinformation system (GIS) for agriculture in order to protect neighboring water bodies from contamination risks caused by diffuse substance discharges. Site-related contamination risks are visualized by means of high-resolution maps supplemented with risk mitigation proposals. With this initiative we are offering our agricultural customers a digital decision-making aid that facilitates both compliance with high environmental standards and optimal flexibility in productivity-oriented issues. Scale-up of the digital system is possible up to the country level, with the following countries already mapped: Germany, the Netherlands and Belgium.

To more effectively meet increasing demands for environmental protection and occupational safety, Crop Science has developed the closed transfer system called easyFlow together with agrotop GmbH. This closed, contamination-preventing discharge system for liquid crop protection products enables full or partial discharge and is fully self-cleaning. The system is used in practice for the small-scale spraying of fruit and vegetables.

Protecting pollinators and other beneficial insects

Bees and other pollinators are hugely important for sustainable food production, and we also depend on healthy pollinators in our seed business. Bayer shares the concerns about currently declining insect populations and has published a position on this issue. As the causes of this decline have not yet been fully clarified, we believe further scientific studies of the causes and the development of corresponding countermeasures are urgently needed. We are therefore involved in researching the factors leading to a decline and developing measures to counter this trend.

Our research supports farmers in food production while at the same time contributing to the health, safety and biodiversity of pollinators. We promote dialogue with all stakeholder groups through our global network. In cooperation projects worldwide, we are looking into some of the major stress factors for pollinators and into new approaches for protecting them and the pollination of crops. At the same time, we are engaged in the development and implementation of approaches to protect insect biodiversity in the agricultural landscape where the current state of knowledge allows for the definition of effective measures.

To minimize potential risks posed to pollinators by our crop protection products, initial tests particularly to measure bee toxicity are already carried out at an early development stage to ensure that only products with an environmental profile that allows a pollinator-safe use are further developed. Crop protection products are stringently regulated and undergo thorough testing to make sure they can be used safely. We perform extensive safety testing and risk assessments, enabling us to recommend specific bee safety measures to farmers.

Metastudies on plants featuring Bt technology (genetically modified plants that contain genes of the soil bacterium Bacillus thuringiensis (Bt) – see Focus on: Agriculture) have not identified any biologically relevant effects on honeybees.

Neonicotinoids

The neonicotinoids chemical class represented a major evolution for agriculture when it was first commercialized in the 1990s. In contrast with many insecticides available at that time, they exhibited markedly lower toxicity for humans. Neonicotinoids replaced other less user-friendly insecticides in numerous areas, thus limiting their use. Systemic insecticides such as imidacloprid can be applied on fields in the form of seed treatments, in other words as a protective layer around the seed grain. Seed treatment is essential in many crops because plant growth can be inhibited and crop yields reduced if the delicate seedlings are attacked by insect pests. When plants are protected at an early stage through seed treatment, less crop protection product has to be sprayed later on – which minimizes the potential risks for pollinators and other beneficial insects.

However, if used as spray application during blooming, certain neonicotinoids (imidacloprid, thiamethoxam and

clothianidin) can be very harmful to pollinators. Labels were amended accordingly and flowering application was excluded. In 2008, the improper seed treatment with the neonicotinoid clothianidin was identified as the cause of local bee deaths. In 2018, marketing authorization for the neonicotinoids imidacloprid, thiamethoxam and clothianidin was withdrawn in the European Union for field application. Application of neonicotinoids by farmers has since been possible to a limited extent in individual EU countries and certain crops through emergency approvals. Emergency approvals are temporary authorizations that are only granted in exceptional situations and under specific conditions. They enable the limited and controlled use of a crop protection product for a certain crop over a period of no more than 120 days in one year. Please see our website for more information on emergency approvals.

It is important to us to ensure in the use of neonicotinoids that a minimal burden is placed on bees while at the same giving farmers the protection they need for their crops. In recent years, therefore, we have revised the scope of application of crop protection products we produce based on neonicotinoid active ingredients. We have withdrawn from the market some formulations for areas of application that could be dangerous to bees. For some applications, such as seed treatment or the spray application of nonblossoming field crops (e.g. sugar beet), neonicotinoids continue to have a positive benefit-risk profile. Here we have developed formulations of the active ingredients that enable the products to be used in accordance with the respective regulations. Study results on neonicotinoids are publicly accessible on our website.

It is of central importance to weigh up the benefits and risks of neonicotinoids as well as to take a holistic view of this topic, as the alternatives may also cause adverse effects and harbor risks. In our research and development we are working on corresponding environmental risk profiles, details of which will be published over the course of 2021. Against this background, Bayer products have a balanced risk profile for both people and the environment.

Since patent protection for neonicotinoids expired, our market share has declined substantially overall. Significant parts of our business with clothianidin and clothianidin-containing products were sold in 2018. The business retained by Bayer, in particular cereals, oilseed rape/canola and beet crops, generates far fewer sales than the part of the business divested. The remaining uses of neonicotinoids in the Bayer portfolio have undergone extensive risk assessments and represent the best option for farmers with respect to agronomic benefits and environmental and operator safety.

In Sivanto™, we have developed and commercialized an insecticide that can replace various applications of neonicotinoids. In many cases, however, Sivanto™ competes with much cheaper products marketed by producers of generic neonicotinoids.

Monarch butterfly

Populations of the migratory monarch butterfly, which are common in North America, have declined in recent decades due to intensive farming and the associated reduction in food sources, the loss of breeding grounds, weather and climate changes, natural enemies, disease pathogens and parasites, and the loss and deterioration of wintering grounds. To better understand and be able to protect the living conditions of monarch butterflies, we have established protection programs and participate in various local initiatives together with suppliers. In this way, we want to support a sustained recovery in monarch butterfly populations. We are working to ensure that the growth of the wild plants (milkweed/Asclepias) that constitute the monarch butterfly's main source of food is supported along its migration routes outside of cultivated areas.

Through an app called HabiTally that we developed together with Iowa State University, farmers and landowners can document the habitats they have created for monarch butterflies and track the gains made in milkweed (Asclepias) stems/acres across the United States. The app allows for better estimates of how much and where current habitat exists, as well as better facilitating analysis of gaps and opportunities for further habitat development. This benefits not only monarchs, but also many other insects, birds and mammals. The United States Fish and Wildlife Service uses the data to better assess and monitor the population dynamics of the monarch butterfly. For more information, please see our website.

Disposal of containers and old inventories, discontinuation policy

Empty crop protection product containers must be safely disposed of to ensure that the product residues that possibly remain are not released into the environment and that empty containers are not improperly reused.

As the proper disposal of crop protection product containers is handled differently in many countries, the crop protection industry works together with authorities, distributors and farmers to establish or maintain suitable disposal systems.

Bayer supports programs worldwide to ensure the safe recycling and disposal of empty packaging and containers. Users can learn about how to safely dispose of our products through information on their labels. Processes are in place at Bayer to ensure the safe sale-off of products, including the disposal of obsolete inventories or waste. For more information, please see Chapter 8.4 Waste and Recycling.

We support the safe disposal of empty crop protection product containers in many countries together with our CropLife International industry association, enabling the collection of 800,000 metric tons of plastic since 2005. This partnership has also facilitated the development of environmentally friendly packaging design programs, the implementation of training courses for distributors and farmers in the proper handling of crop protection product containers, and the testing of plastic recycling options. Especially successful disposal programs have been established in Brazil, Canada, France and Germany. In Brazil, more than 450,000 metric tons of empty crop protection product containers have been disposed of since 2002 through the InpEV (National Institute for Processing Empty Packages) program.

Furthermore, in collaboration with CropLife International, Bayer supports the establishment of disposal systems for crop protection product containers particularly in countries without suitable disposal programs, for example in Asia, Africa and some Latin American countries.

In Germany, the crop protection industry partnered with agricultural wholesalers to develop the voluntary PAMIRA system for disposing of agrochemical packaging materials. Crop protection producers cover the costs for collection, logistics and utilization of packaging, while wholesalers provide the collection points. In 2020, around 3,000 metric tons of crop protection product and liquid fertilizer packaging in Germany were returned free of charge and disposed of in an environmentally friendly manner through the PAMIRA system.

3.7 Biodiversity

The number one threat to biodiversity is the loss, deterioration and fragmentation of habitats – mainly driven by agricultural activities. This is why attention is centered on raw material production in the primary sector, and particularly agriculture.

At Bayer, activities focus on the responsible use of natural resources to conserve and protect ecosystems, species and genetic biodiversity. We have spelled out this stance both in our Human Rights corporate policy and in our Position on Conservation and Restoration of Biodiversity in Agriculture and Forestry, which we updated in 2020. We are explicitly committed to the U.N. Convention on Biological Diversity and the associated Nagoya Protocol, as well as the International Treaty on Plant Genetic Resources for Food and Agriculture of the FAO, which prescribes the balanced and fair division of use of genetic resources. A supplementary corporate directive on the Nagoya Protocol defines the principles for how to manage access to and the use and transfer of genetic resources and/or traditional knowledge throughout the company.

In 2020, Bayer defined three strategic focus areas in which we plan to concentrate biodiversity preservation efforts:

- // Generating value for farmers who promote biodiversity;
- // Protecting habitats and forests, and
- // Improving the genetic diversity of crops.

An interdisciplinary topic

Biodiversity is an interdisciplinary topic that affects several areas of our company and our value chain. In addition to active ingredients for pharmaceutical development, the agriculture sector benefits especially from biodiversity – while at the same time contributing to its loss.

We are aware that our business operations are highly dependent on biodiversity and functioning ecosystems, and that they mutually influence each other. That is why we are committed to integrating considerations around biodiversity preservation as comprehensively as possible into our core business and our research and development activities. We are therefore investigating and developing cultivation systems that help to achieve a better balance between productivity and the conservation of biodiversity and habitats. In cooperation projects involving our ForwardFarms and nature conservation experts, for example, we research what this balance could look like in various countries, regions and crops.

Due to its interdisciplinary character, biodiversity impacts various areas of Bayer:

- // Intensive farming – decades of intensification in agriculture have led to challenges in the supply chain. With our innovations in plant breeding and crop protection, we promote the efficient use of available land to ensure a secure food supply. This reduces the pressure to convert additional natural habitats (such as tropical forests) into farmland. However, natural habitats can only be conserved in coordination with statutory regulations or market-oriented incentive programs. For more information, please see the Chapter Focus on: Agriculture
- // Plant integrity – there are fears that genetically modified plants could spread throughout the environment and negatively impact biodiversity, for example through cross-breeding. For more information, please see the Chapter Focus on: Agriculture.
- // Pollinators – pollination plays a key role in all terrestrial ecosystems. Pollinators therefore represent a significant part of worldwide biodiversity. Pollination plays an important role in global crop production and in safeguarding nutrition. To minimize risks posed to bees and other pollinators by our crop protection products, we perform extensive safety testing and risk assessments and implement product stewardship measures. We are actively involved in numerous projects and research activities to protect bees and other pollinators. For more information on protecting pollinators and on the effects of our products, please see Chapter 3.6 Crop Science.
- // Climate – forest habitats are of central importance for biodiversity. Our forests also play a key role in protecting the climate. With our [new Position on Deforestation and Forest Degradation](#), we want to address its causes within our sphere of influence, as well as in cooperation with our customers in the agriculture and forestry sector and within our supply chains. We also make a detailed statement on this in our current Report to [CDP Forest](#).
- // For Bayer, digital farming is another important tool for creating a better balance between productivity and conservation. The goal of digital farming is to use resources such as water, fertilizer and crop protection products

more efficiently and sustainably. This also indirectly helps to protect biodiversity. For more information, please see Chapter 3.6 Crop Science.

- // When planning new production sites, Bayer takes into account that they must not be set up in areas that are statutorily protected with regard to their natural characteristics, biodiversity or other factors. The locations and composition of our sites has changed due to corporate acquisitions and divestments. Using the international Integrated Biodiversity Assessment Tool (IBAT), we therefore conducted an updated comparison of the geographical coordinates of our 553 production and research sites (including breeding stations) in 2020 with those of internationally recognized protected areas (such as ASEAN Heritage, Wetland of International Importance according to the Ramsar Convention, Specially Protected Areas of Mediterranean Importance according to the Barcelona Convention, UNESCO-MAB Biosphere Reserve and World Heritage Site). The comparison showed that 30 of our sites are located within six kilometers of such protected areas.

Commitment

We support the conservation and sustainable use of plant genetic resources as well as food security and ecological sustainability – not just through financial contributions and donations, but also through material donations to establish new collections aimed at conserving the genetic diversity of crops. We engage in various projects worldwide in this respect, including especially the buildup of capacities particularly in farming communities, and also participate in numerous public-private partnerships.

3.8 Pharmaceuticals and Consumer Health

Quality and safety of pharmaceuticals and medical devices

Extremely stringent safety standards for patients and medical professionals apply to pharmaceuticals and medical devices. That's why both the development and manufacture of pharmaceuticals and medical devices are subject to very strict quality requirements.

The quality management system of the Pharmaceuticals and Consumer Health divisions is based on internationally recognized standards and applicable legal, regulatory and ethical requirements for all stages of the provision of a pharmaceutical or a medical device – from development to registration, production and distribution. These standards particularly include the rules for good working practices (GxP) in the development and manufacture of pharmaceuticals – such as Good Manufacturing Practices (GMP), Good Distribution Practices (GDP) and Good Clinical Practices (GCP), ISO certifications like those for the manufacture of medical devices (e.g. ISO 9001, 17025 and 13485) and the guidelines of the ICH (International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use).

Internal experts and external assessors regularly conduct risk-based audits to verify compliance with the statutory requirements and relevant standards in development and production as well as for registered product specifications. Such audits also cover institutes subcontracted by Bayer, service providers, our suppliers and contract manufacturers. Observations made during these audits are systematically evaluated and compliance with corrective measures verified at regular intervals. The quality requirements derived from regulatory requirements, permits

and authorizations, and from relevant standards, are regularly reviewed and integrated into our quality management system.

In addition to the internal quality assurance mechanisms, all our sites are regularly inspected by the health authorities of the respective countries to verify compliance with the various national and international requirements and certified according to the respective product category (e.g. through GMP certificates or in the form of an official producer permit). All our sites received the targeted certifications in 2020.

Quality, safety and efficacy are always assessed relative to the possible risks associated with a product's use. Such an assessment results in a benefit-risk profile, which is crucial for the product's approval and is also continuously reviewed thereafter. Accordingly, the Pharmaceuticals and Consumer Health divisions assess the medical benefit-risk profile of their pharmaceuticals and medical devices throughout their entire product life cycle. For medical devices, the initial production and subsequent update of the benefit-risk profile are undertaken within the scope of the quality management system. For pharmaceuticals, this takes place through a corresponding pharmacovigilance system.

Safety in pharmaceutical development and production

Drug development is a complex and time-consuming process and is subject to stringent rules.

The first step in developing a pharmaceutical is to find substances that can serve as a starting material for a new active ingredient. The next step is to test the new active ingredient – for example by simulating processes, conducting tests in cell or tissue cultures or with the help of bacteria or animal studies. These tests are prescribed by law and subject to strict guidelines and governmental controls. For more information, see Chapter 3.4 Animal Welfare.

The active ingredient is then used to produce a dosable and safe pharmaceutical. The requirements of the active ingredient and the product's acceptance by patients both play a role when developing a suitable delivery form (such as a tablet or ointment). It must also be ensured that patients can safely dose and easily handle the product.

Before the pharmaceutical can then be submitted for approval, its efficacy, safety and tolerability must be examined in various phases (Phases I-III) of preclinical and clinical trials.

Clinical trials

Clinical trials are an essential tool for determining the efficacy and safety of new drugs before they can be used to diagnose or treat diseases. The benefits and risks of new medicinal products must always be scientifically proven and well documented. Yet clinical trials are also necessary to examine already approved products for new indications. With respect to clinical trials we strictly align ourselves to the Declaration of Helsinki, an ethical standard in place since 1964 that regulates research conducted on humans. This commitment is established in our [Bayer Human Rights Policy](#) and also applies to all research institutes (clinical research organizations, CROs) tasked with conducting clinical trials on our behalf. Additional statutory regulations, directives and ethical codes supplementing the Declaration of Helsinki have been further developed and introduced worldwide to ensure that the health and safety of participants are the top priority in clinical trials.

Clinical trial phases

Stringent scientific and ethical principles apply for all clinical trials involving humans. A trial protocol lays out what is to be investigated, how the trial is to be conducted and why it is necessary. It is approved by the pharmaceutical regulatory authorities and an independent ethics commission. The voluntary trial participants are comprehensively informed in advance about the planned trial and the possible risks. Their participation is subject to written consent that can be retracted at any time. They receive an expense allowance for participating.

In Phase I, physicians investigate an active ingredient with respect to its safety, tolerability and behavior in the body of healthy trial participants. Blood values and additional parameters are monitored, and it is determined how the ingredient is taken up, distributed, metabolized and excreted by the human body. In further studies, the physicians investigate interactions with other pharmaceuticals or food. If an active ingredient proves to be well tolerated in this phase, it is subsequently tested in trial participants. Active ingredients for cancer treatment are tested in patients already in Phase I.

In Phases II and III, physicians examine how effective the ingredient under investigation is, if at all, what dose is ideal for treatment and how frequently side-effects occur. Phase II involves the participation of 100 to 500 patients, while the drug product is tested in as many as several thousand patients in Phase III. To rule out distorted measurement results as far as possible, the scientists compare the new active ingredient with an established therapy form or a placebo that does not contain an active ingredient. The patients do not know which group they belong to.

Physicians participating in a clinical trial keep records of the treatments, measurement values and findings, and forward the data to the drug producer in anonymized form. Finally, the data is interpreted to determine whether the results are medically relevant and whether it is worth seeking regulatory approval of the active ingredient in the form of a drug product. The trials last for eight years on average. Additional clinical studies (Phase IV, post-authorization safety studies) take place following registration to further assess the benefit-risk profile in the determination of the therapeutic value of the product under practical conditions.

Wherever in the world we conduct clinical trials, they satisfy these strict international directives and high quality standards, as well as the respective applicable national laws and standards. We review whether they comply with these by means of risk-based audits, and that includes the institutes we commission (Clinical Research Organizations, CROs). Bayer publishes information on clinical trials in compliance with the respective local laws. Bayer publishes information on its own clinical trials both in the [publicly accessible registers](#) and in its own [Trial Finder database](#).

In the case of approved products, summarized results of Phase II, III and IV clinical trials are accessible online through the Trial Finder. Upon request, scientists can receive access to anonymized data from clinical trials at the patient level via the [Clinical Study Data Request](#) portal, provided the studies in question are listed in the portal. Through this, Bayer observes the principles of the European Federation

of Pharmaceutical Industries and Associations (EFPIA) and the Pharmaceutical Research and Manufacturers of America (PhRMA) on the responsible communication of clinical trial data, which were defined in a joint [position paper](#).

Further information about our globally uniform standards, the monitoring of clinical studies and the role of the ethics committees can be found on the [internet](#).

Easy-to-understand summaries

Since 2020, we have published clinical trial results on our Trial Finder website in a way that is easily understandable. In the future, we plan to publish summaries of each interventional clinical trial after the conclusion of Phases I through IV. They are written in English and the eight most important languages worldwide and in the languages of the countries in which the trial was carried out.

Bayer thus goes well beyond the future requirements of the EU regulation on clinical trials that will enter into force in December 2021.

Approval process

The respective documentation submitted to the regulatory authorities contains the research results from the Phase I to III clinical trials and the data generated for a pharmaceutical during its development. It thus includes both the data from the developmental phases, such as chemical-pharmaceutical and toxicological data, and a comprehensive benefit-risk assessment of the pharmaceutical. A new pharmaceutical

must comply with all regulatory safety requirements to secure marketing authorization. The same applies to medical devices, dietary supplements and medicated skincare products. Based on these documents, the regulatory authority assesses whether the efficacy, safety and quality of the pharmaceutical have been demonstrated for the intended indication. The product is only approved if its benefit-risk ratio is positively assessed.

As each country has its own strict regulations for drug development, product approval and market launch, we work closely with the respective national regulatory authorities to ensure that we act in a compliant manner at every development stage. The authorities in additional countries often take the assessments of the EMA and/or the FDA into consideration in their own evaluations.

The most important regulatory authorities for Bayer are:

- // The U.S. Food and Drug Administration (FDA)
- // The European Medicines Agency (EMA)
- // The Pharmaceuticals and Medical Devices Agency (PMDA) in Japan
- // The National Medical Products Administration (NMPA) in China

Drug safety

The preclinical and clinical studies prescribed for pharmaceutical research investigate drug candidates with regard to their quality, safety and efficacy. At the same time, the genesis and progression of a disease differ from one person to another and the effect of a drug product can vary accordingly. We continue to observe and evaluate our products following their approval and throughout their entire life cycle. This enables adverse effects to be identified at an early stage and a decision to be taken as regards the necessary risk mitigation measures.

The collection and evaluation of safety-relevant information about our products are the responsibility of the global Patient and Drug Safety (Pharmacovigilance) department, in which scientific and medical experts from various disciplines work together in safety management teams (SMTs). These teams evaluate internal benefit and safety data, clinical trials, post-marketing studies, external databases and scientific publications to identify potential safety concerns at an early stage and detect possible changes in the benefit-risk profile. All reported side-effects are entered into our pharmacovigilance database. The evaluation of information about a benefit-risk profile applies not just to pharmaceuticals and medical devices, but also to dietary supplements and medicated skincare products. This information is regularly evaluated together with the regulatory and oversight authorities at both national and international level.

As it is particularly important not just to collect data during the clinical development of a medical product, but also to monitor the product after marketing authorization has been granted, we conduct the aforementioned Phase IV studies (post-authorization safety studies) to record rare or very rare side-effects, for example. Pharmaceutical manufacturers receive reports on side-effects either directly or through the health authorities, as well as through stakeholders such as physicians, pharmacists or patients themselves. We pass on to the regulatory authorities suggestions derived from these reports regarding supplementary safety-relevant information in the package inserts. Such suggestions usually come to the authorities from the respective pharmaceutical manufacturers. The relevant health authorities decide on the steps resulting from the reports and suggestions in close cooperation with us as the producer.

Should risks be identified, we immediately take steps to safeguard the health of patients and consumers in coordination with the authorities. These measures range from updating product information for patients, users, pharmacists and physicians through patient education brochures and further training measures for medical specialists to direct communication with medical experts (Direct Healthcare Professional Communication, DHPC) and even product withdrawals. Implementation of risk mitigation activities is coordinated by our local safety management teams (SMTs) in the country organizations.

All of these processes are documented, regularly updated and integrated into the quality management system. To maintain the high quality of Bayer's pharmacovigilance system, our medical and scientific experts undergo regular

training. Furthermore, in line with our Product Safety and Quality: Reporting Obligations of Employees corporate policy, all Bayer employees are required to undergo training as regards their obligation to immediately report safety- and quality-relevant information to the Pharmacovigilance department. We regularly test whether the pharmacovigilance system can cope with emergency situations such as pandemics.

The information that we compile on side-effects is reported to the national health authorities in the relevant countries, where it is processed. As processes in the European Union are centralized, European marketing authorization holders such as Bayer are now required to enter all suspected cases of undesirable side-effects directly into EudraVigilance, the European Medicines Agency's electronic information system, rather than reporting them to the 27 national authorities.

Large data volumes must be analyzed to identify relevant information in the drug safety process. Since 2019, Bayer has employed technologies with artificial intelligence for this task in order to support time-consuming manual work-flows. This enables side-effects to be discovered at an earlier stage and risk mitigation measures to be implemented faster, which in turn helps to further improve patient safety.

Pharmaceutical residues in the environment

Active pharmaceutical ingredients can enter the environment through human excreta, through improper disposal or during production. Discharges into surface waters are particularly relevant here. In connection with drinking water that is partially taken from surface waters, our current knowledge indicates that the existing concentrations of individual active

pharmaceutical ingredients in drinking water currently do not have any effects on human health. According to its comprehensive global report on the [Drinking Water Parameter Cooperation Project \(2017\)](#), in which the concentrations of pharmaceuticals and mixtures of active pharmaceutical ingredients in drinking water were investigated among other aspects, the World Health Organization (WHO) also does not identify any immediate health risks and consequently sees no need to act in the short term. To further guarantee the safety of drinking water resources, partly against the background of a potential increase in the use of pharmaceuticals, the WHO recommends that this issue be observed comprehensively over a longer period of time.

Furthermore, the impact of pharmaceutical residues on ecosystems is addressed in the public sector and in scientific publications. In 2019, the European Commission published a strategic approach to managing pharmaceuticals in the environment. This issue also plays a role in the draft of the EU pharmaceuticals strategy for 2020. Between 2015 and 2019, an initiative of the manufacturers' associations EFPIA (European Federation of Pharmaceutical Industries and Associations), AESGP (Association Européenne des Spécialités Pharmaceutiques Grand Public) and MfE (Medicines for Europe) addressed key points of a strategic approach to dealing with pharmaceuticals in the environment and developed possible solutions for this problem. The developed solutions focused partly on expanding the risk assessment processes in connection with the approval of pharmaceuticals and the management of wastewater generated during pharmaceutical manufacturing. The initiative encompasses various projects and concepts, and Bayer acted as coordinator of the

iPiE ([Intelligence-led Assessment of Pharmaceuticals in the Environment](#)) sub-project. A total of 25 partners from Europe and the United States participated in iPiE, including 13 major pharmaceutical companies and nine universities and research organizations. The project was established by the Innovative Medicines Initiative (IMI), a public-private partnership of the European Commission and the EFPIA aimed at developing new models and assessment strategies for predicting the environmental risks of active pharmaceutical ingredients. A database of environmental information was created within the scope of iPiE that gives a comprehensive, transparent and comprehensible overview of the more than 2,000 compiled studies and the environmental data on active pharmaceutical ingredients contained therein. Researchers can use the findings gained from the project to develop new pharmaceuticals and thus recognize at an early stage what impact a new drug product might have on the environment. An analysis found that a potential environmental risk is identifiable for only a small number of the active ingredients assessed so far within the scope of central approval processes. These primarily comprise hormonally active ingredients, which are also used at Bayer.

We are also a participant in PREMIER (Prioritization and Risk Evaluation of Medicines in the EnviRonment), a follow-up project initiated with the IMI in 2020 that focuses on assessing and reducing the risk posed by pharmaceuticals in the environment. The goal is to provide an innovative framework for characterizing the environmental risks of active ingredients that can be used to explore and promote a more environmentally friendly active ingredient design and a more environmentally friendly manufacturing process.

Bayer is also involved in the stakeholder dialogue initiated by the German government with the goal of drawing up a strategy for dealing with trace substances in bodies of water. In round-table formats bringing together stakeholders from water management, environmental authorities and associations, health services providers and industry, measures are developed that aim to reduce the discharge of relevant trace substances. The objective is to develop a strategy to prevent the water-impacting effects of certain chemicals, including active pharmaceutical ingredients. We also actively participate in the round table on iodinated X-ray contrast agents.

Our Pharmaceuticals and Consumer Health divisions carry out ecotoxicological investigations of pharmaceutical residues to assess the potential environmental impact of their active pharmaceutical ingredients. In connection with the approval process for human pharmaceuticals in Europe and the United States, an environmental risk assessment of discharge following proper use by patients takes place for all new active pharmaceutical ingredients. General information on the environmental risks of pharmaceuticals is given in the specialized information for physicians and in the package inserts, including details of how to dispose of unused pharmaceuticals.

We take additional action in our production facilities to minimize discharges of active ingredients into the environment based on risk-oriented assessment parameters. For more information, please see Chapter 8.3 Water and Wastewater.

Focus on: Access to Health Care

Millions of people in many parts of the world do not have access to basic medical care. According to the World Health Organization (WHO), there are various reasons for this: a lack of medicines, poverty, a lack of or inadequately trained medical personnel, a lack of political will and insufficient access to medical data.

As a leading pharmaceutical company, we believe we have a responsibility to improve access to health care for all. For this reason, we are focusing on areas in which we can have the biggest impact by leveraging our scientific know-how, products, partnerships and global network.

In accordance with our sustainability strategy, we want to enable 100 million women in low- and middle-income countries (LMICs) to gain access to modern contraceptives by 2030. We also want to facilitate access to self-care products and service offerings for 100 million people in underserved communities. For more information, please see the Chapter Sustainability Strategy.

It is also our ambition to give 100 million people in LMICs access to our pharmaceutical products through fairer drug pricing and our patient access programs.

We have implemented strategies for improving access to health care all along the value chain of the Pharmaceuticals Division.

Access to Medicine Index

Since 2008, the Access to Medicine Foundation has published a ranking of the 20 biggest pharmaceutical companies. The Access to Medicine Index evaluates the companies' measures to make medicines and diagnosis more easily accessible to people in low- and middle-income countries (LMICs). Bayer is currently in 13th position.

Family planning

The ability of girls and young women to complete their education and thus improve their opportunities in life is highly dependent on family planning options. For that to happen, they must be able to make their own well-founded decisions about whether to have children, and, if so, how many and when. Knowledge about their own sexuality and access to modern family planning are crucial to help young people make important life decisions. Furthermore, both education and conversations about family planning strengthen gender equality and the role of women worldwide. That's why access to voluntary family planning has been an established human right for more than 50 years.

Family planning plays a crucial role in reducing poverty and hunger, improving health and enabling young people to enjoy a high-quality education. According to the United States Agency for International Development (USAID), investment in family planning is a "best buy" for development that can support the attainment of various Sustainable Development Goals (SDGs).

Bayer works together with international partners to improve education about sexual rights and contraceptive options. Back in 2007, in close cooperation with 15 international partners, we launched the "Your Life" information campaign that is directed toward young people around the world. The associated social media activities provide facts and figures on current contraception options and address concerns about contraceptives.

Social acceptance of the use of contraceptives presents an obstacle for many women. For this reason, it is important to not only strengthen young people's knowledge, but also to increase awareness among politicians and physicians about the sexual rights of women in low- and middle-income countries (LMICs). Against this background we have supported the International Dialogue on Population and Sustainable Development – an annual conference with participants from civil society, politics and the private sector.

Access to family planning products is not adequately guaranteed in many regions of the world. As a leading women's health company, Bayer is a longstanding partner to international family planning programs. Bayer's contraceptive products are made available at preferential prices.

Apart from the use of Bayer's own products, since July 2020, Bayer has financially supported The Challenge Initiative (TCI) – a family planning program based at Johns Hopkins University and implemented by the Bill & Melinda Gates Institute for Population and Reproductive Health. TCI aims to quickly and sustainably establish various family planning options on a broad scale. The program is currently being implemented in more than 90 Asian and African cities.

In 2007, Bayer became a member of the Reproductive Health Supplies Coalition (RHSC), a global partnership of public, private and nongovernmental organizations. The RHSC endeavors to ensure that people in LMICs are able to access affordable and high-quality contraceptives. Within the framework of the RHSC, Bayer works together with the United Nations Population Fund (UNFPA), USAID and international NGOs to make available hormonal contraceptives such as birth control pills, three-month injections, implants and coils. As a strategic partner, we also provide support with expertise in the areas of supply, logistics and product registration.

We already currently provide contraceptives to 40 million women in low- and middle-income LMICs. About half these women are reached through private distribution channels – particularly in higher middle-income markets. The other half – mainly women in countries with lower and lower-middle incomes – receive access through the international development network, such as through UNFPA or participating national family planning programs. Shipments provided through such programs are usually free of charge for the women. To address the challenges linked to facilitating access to contraceptives over the next decade and reach our target of enabling 100 million women to access modern contraceptives, we will expand our partnerships and increase our supply volume in the future.

In addition, we are reviewing how we can increase production capacities to meet the growing need for long-acting reversible contraceptives (LARCs). Capacity increases would entail investment in new and existing facilities. For more information, please see our website.

Access to self-care solutions

We want to enable more people in underserved communities to access self-care products and services in the future. Through our Nutrient Gap Initiative, we and our partners want to provide 50 million people in underserved communities with access to vitamins and minerals by 2030. This initiative will initially focus on micronutrients for children and pregnant women. Only very small amounts of micronutrients are required, but they are essential for the physiological function, growth and development.

We have also begun producing new, more affordable packaging sizes for our biggest brands that we will offer in various low middle- and higher middle-income countries throughout the Latin America, Africa and Asia/Pacific regions.

Neglected tropical diseases

Together with other pharmaceutical companies, Bayer plays an important role in fighting neglected tropical diseases. For nearly 20 years, we have provided the WHO with two active ingredients free of charge to treat Chagas disease and African sleeping sickness. We also provide funding for logistics and the distribution of these drugs in the affected countries, as well as for other activities.

According to the WHO, around 75 million people worldwide are threatened by Chagas disease, but less than 1% have access to adequate diagnosis and treatment of the disease, which is why we are continuing clinical and preclinical research in this area. In August 2020, a formulation of our

product Lampit™ that is suitable for children was approved by the USFDA for the treatment of Chagas disease. Children are at particular risk because infected, and in some cases asymptomatic, mothers can pass on the pathogen to their unborn children. The new formulation enables the drug to be precisely dosed for children based on body weight. It also has better solubility and is easier to administer, which means it can be given to infants aged zero to two years. That makes this formulation of Lampit™ the first Chagas treatment approved for this age group. We endeavor to register the active ingredient in further heavily impacted countries and make it accessible for those affected.

We also support programs to control the vectors of diseases such as malaria, dengue fever or the Zika virus.

Furthermore, Bayer is a member of the European ESCUlab project (European screening centre; unique library for attractive biology) of the Innovative Medicines Initiative (IMI), which seeks drugs to effectively treat neglected tropical diseases and malaria, among other objectives.

Malaria

We support various initiatives and organizations in the fight against malaria. As a member of the Zero by 40 initiative, we aim, together with other agriculture companies and the Bill & Melinda Gates Foundation, to eliminate the malaria pathogen by 2040 through the use of innovative vector control, various treatment forms and preventive measures. The Bayer Foundation supports various partnerships to fight malaria in rural regions of Asia and Africa.

Further engagement

In addition to infectious diseases, noncommunicable diseases are a major challenge, particularly in low- and middle-income countries. More than three-quarters of deaths from cardiovascular disease occur in LMICs. Between 1990 and 2013, sub-Saharan Africa was the only geographic region in the world to register an increase in deaths due to cardiovascular disease. The number of cardiovascular patients is expected to double by 2030. In Ghana, Bayer is therefore working in partnership with the German Society for International Cooperation (GIZ) and local health authorities to develop a model project to establish an integrated diagnosis, treatment and continuing education concept for cardiovascular disease. The Ghana Heart Initiative we support aims to facilitate more specific drug access programs by strengthening the system. The intention is for the model project to serve as a foundation and a catalyst for subsequent initiatives to build up capacities to treat noncommunicable diseases. For more information, please see our [website](#).

Bayer and the [Bayer Foundation](#) are similarly committed to numerous projects and local partnerships to strengthen the health system and build up capacities. Social commitment, access programs and innovative, inclusive business models jointly contribute to the implementation of our “Health for all, hunger for none” vision. For more information, please see Chapter 9 Foundation and Charity Activities.

Antimicrobial resistance

Antimicrobial resistance (AMR) is an increasing problem in health care, and suitable antibiotics are urgently needed. Together with other pharmaceutical companies, we therefore support the AMR Action Fund, which aims to bring

two to four additional antibiotics to market maturity by 2030 to address AMR whose development would otherwise be jeopardized by funding problems.

Equitable drug pricing

The cost of medicines can present a major obstacle for patients in some countries. We therefore work together with patients, charitable organizations and governmental authorities in LMICs to improve access to medicines through affordable pricing solutions. For some of our most important products (Adempas™, Eylea™, Mirena™, Nexavar™ and Xarelto™), we revised the framework conditions for equitable pricing in 2020 to account for per capita gross national income. We thereby enable individual decisions to be made about drug prices in the respective countries so that more patients can access the medicines they need. These adjustments are also planned for other products.

Patient access programs

Our Patient Affordability Programs (PAPs) help patients in various countries to overcome financial obstacles to treatment access. We cooperate with insurance providers, charitable organizations and other institutions. Our PAPs are designed in accordance with the local needs of each country and support patients in different ways:

- // Individual assessment of a patient’s ability to pay and application of a graduated pricing system
- // Provision of the needed medicines at reduced costs, either through an immediate or delayed discount on the price or through cost-free medicines

Patents in low-income countries

In low-income countries (LICs), Bayer does not register or enforce patents for human pharmaceuticals or vector control products. This applies for as long as a country retains the status of a low-income country according to the World Bank classification and the country’s government does not take any measures that would justify a change in that status. We have also joined the Patent Information Initiative for Medicines (Pat-INFORMED), which provides basic patent information on our registered products and makes it available to the public.

COVID-19

In September 2020, Bayer joined with other research-based pharmaceutical companies and the Bill & Melinda Gates Foundation in undertaking to support research into COVID-19 treatments and thus bring the pandemic under control. We are opening up our molecule database to accelerate the search for suitable active ingredients. In addition, when suitable active ingredients and drugs are found, we cooperate with other pharmaceutical companies to provide adequate production capacities at our facilities as well as warehousing and logistics services to make sure the products can be produced and distributed as quickly as possible. There is a particular focus here on low- and middle-income countries. We are committed to supporting affordable access to effective medicines in these countries.

4. Procurement

As a global company, Bayer procures services and materials from all over the world. We align our procurement and supplier management processes to ambitious ethical, social and environment-related principles. We expect our suppliers to also observe these principles and we support them in doing so. Through this approach we help to improve the sustainability of our supply chain.

4.1 Management Approach

The procurement organization supplies the company with raw materials, goods and services all around the world. We exert influence on society and the environment through our procurement activities and supplier relationships. Not only economic, but also ethical, social and ecological principles are therefore anchored in our updated Procurement Policy, which is binding for all employees worldwide.

Procurement acts on behalf of all divisions and enabling functions, leveraging synergies by bundling know-how and procurement spend. The head of Procurement reports directly to the Chief Financial Officer.

Procurement operates according to established procurement and supplier management processes. Long-term contracts and active supplier management for strategically important goods and services are important elements here. They serve to minimize procurement-specific risks such as supply bottlenecks or significant price fluctuations, and also to safeguard the company's competitiveness and ensure smooth production processes.

Our main direct procurement materials include active ingredients, raw materials, intermediates, finished products and seeds. Technical goods and services, marketing services and information technologies are important components of our indirect procurement portfolio.

The share of renewable raw materials in Bayer's procurement portfolio plays a subordinated role in the Bayer Group. These materials are primarily used when it makes technical, economic and ecological sense to do so. More information can be found [online](#).

The following table provides relevant data on our procurement activities.

Procurement Activities ¹		
	2019	2020
Procurement spend in € billion	17.6	17.7
Spend in OECD countries in € billion	13.8	14.1
U.S.A.	6.3	6.0
Germany	3.2	3.8
United Kingdom	0.6	0.6
Other	3.7	3.7
Spend in non-OECD countries in € billion	3.8	3.7
China	1.0	1.0
Brazil	0.9	0.8
India	0.6	0.6
Other	1.3	1.3
Number of suppliers	86,400	97,362
of which from OECD countries	52,038	55,372
U.S.A.	13,128	15,376
Germany	11,263	9,945
United Kingdom	1,375	1,360
Other	26,272	28,694
of which from non-OECD countries	34,362	41,990
China	1,972	1,995
Brazil	3,917	7,447
India	8,699	9,237
Other	19,774	23,312
Number of countries	143	147

¹ Internal services worth €0.3 billion were procured from the Currenta group until the date of its deconsolidation in 2019.

Bayer purchases locally wherever possible in order to respond promptly to the requirements of our sites and simultaneously strengthen local economies. In 2020, this applied to 77% (2019: 76%) of our procurement spend at our significant locations of operation, and to 77% (2019: 76%) of procurement spend in all countries worldwide.

When selecting suppliers, we consider all types of suppliers and supplier diversity.

Supplier Diversity Program U.S.A. and Brazil

With its comprehensive Supplier Inclusion & Diversity Program, Bayer promotes diversity within the supply chain in the United States and Brazil. In doing so, we account in particular for underrepresented supplier groups such as companies owned or operated by women or members of ethnic minorities. Together with chambers of commerce and external organizations, we help these suppliers to further develop themselves professionally, offer them financial benefits to improve their competitive opportunities and assist them in qualifying for tendering processes. In 2020, Bayer was honored for the fourth consecutive time in the United States with the Top Corporation Award of the Women's Business Enterprise National Council for the inclusion of suppliers owned by women. In 2021, we intend to introduce a new strategy in procurement aimed at promoting the inclusion of and diversity among our suppliers.

Strategic sustainability focus areas

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, increasing importance will be placed on environmental and human rights requirements throughout the supply chain and on the Supplier Inclusion & Diversity Program. There are also plans to monitor the progress of the various sustainability focus areas using indicators and to define appropriate targets. Already in 2020, we stipulated that all strategically important suppliers must present an EcoVadis assessment of at least 45 of 100 points ("green" assessment) or a comparable audit result. Beginning in 2021, all potential new suppliers with a procurement spend of more than €250,000 will be additionally examined in advance with regard to sustainability aspects.

The focus in 2020 was on developing the strategic and operational approaches for respecting human rights and reducing the carbon footprint in the supply chain.

In the agriculture industry, seed producers are subject to particular risks, especially with regard to respecting human rights. We shall place greater emphasis on this aspect in the future as we develop our new human rights strategy (for more information, please see Chapter 5 Human Rights) and the sustainability risk classification. Starting in 2021, we plan to expand our measures with respect to the fulfilment of corporate due diligence in the area of human rights in the supply chain and more intensively integrate them into our procurement processes.

Within the framework of Bayer's sustainability strategy, Procurement is also responsible for all measures aimed at reducing the carbon footprint of our supply chain (Scope 3). In 2020, we launched our activities in this regard and registered initial progress in preparing the future implementation of a Scope 3 reduction among our suppliers. For more information, please see Chapter 7 Climate Protection.

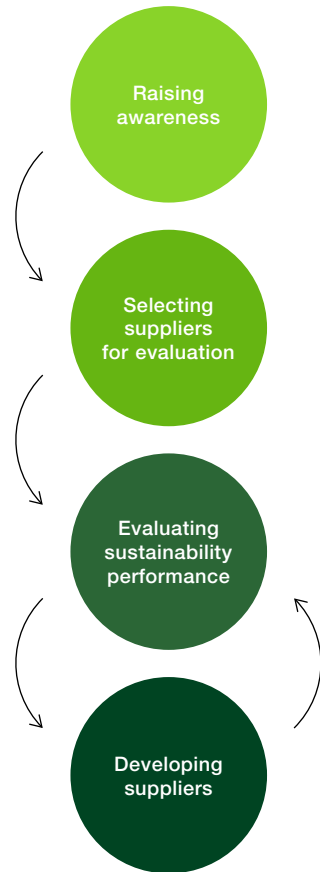
4.2 Sustainability in the Supply Chain

Clear, sustainability-oriented criteria and standards apply to our supply chain at both a global and regional level. A four-step process is established throughout the company to improve sustainability practices in the supply chain.

This process is centrally steered by the Sustainability unit in Procurement. It is implemented through cross-functional cooperation between the Procurement; Health, Safety & Environment; and Public Affairs, Science & Sustainability enabling functions.

We use targeted measures to train our procurement employees in our sustainability requirements. From 2021, we will schedule advanced training on our new sustainability focus topics.

Four-step Management Process to Improve Sustainability Practices in the Supply Chain



Step 1: Raising awareness

The core principles of our sustainability requirements are established in [Bayer's Supplier Code of Conduct](#), which is based on our Bayer Human Rights Policy, the principles of the U.N. Global Compact and the core labor standards of the [International Labour Organization \(ILO\)](#). The code is available in 12 languages and covers the areas of ethics, relations with employees and other stakeholders (including human rights), health, safety, environment and quality, and governance and management systems. In our Supplier Code of Conduct, we state that complaints and (compliance) violations can be reported – anonymously if desired – via a central compliance hotline set up by Bayer that is available worldwide (for more information, please see Chapter 2.5 Compliance). Additionally, we expect our suppliers to make an adequate complaint mechanism available to their stakeholders.

The code is applied in the selection and evaluation of our suppliers and is integrated into electronic ordering systems throughout the Bayer Group. As a result, suppliers must already commit to our core principles upon registration. Furthermore, our standard supply contracts (with the exception of existing contracts of the acquired agricultural business) contain a clause that authorizes us to verify suppliers' compliance with our sustainability requirements. For the existing supplier contracts in the acquired agricultural business, this clause will be successively integrated beginning in 2021 as the contracts are updated. Our Code of Conduct is supplemented by a [global guidance document](#), which, like the Supplier Code of Conduct, is integrated into our registration portal for suppliers.

Step 2: Selecting suppliers for evaluation

Each year, Bayer systematically selects suppliers whose observance of the code requirements needs to be reviewed through an online assessment or an audit. The first step is to identify all suppliers of strategic relevance to Bayer who must automatically undergo a sustainability evaluation.

In the second step, Bayer gives a sustainability risk classification to any remaining suppliers representing a significant annual procurement spend of more than €0.5 million. As this threshold was fixed at €1 million in 2019, the number of suppliers requiring evaluation increased in 2020. The sustainability risk classification comprises the assessment of risks prevailing in the respective supplier's country (country risk) and resulting from the supplier's sector of activity (category risk). This process was revised in 2020 with the support of an external consultancy, enabling a more detailed view of the risks in the categories of environment (e.g. climate and energy), social standards (e.g. child labor) and corporate governance (e.g. data protection). This more targeted analysis by individual risk criteria increases transparency in our supply chain. The risk categorization is based on an internationally recognized classifications of country risks such as those applied by the World Bank and of category risks such as those employed by the United Nations.

The procurement organization examines the suppliers identified in these two steps and selects the final suppliers requiring evaluation. In 2020, this selection process yielded 220 strategically important suppliers making up nearly 25% of the total procurement spend, and 434 suppliers with an increased sustainability risk and a significant procurement spend (> €0.5 million p.a.).

Also included in the evaluation process are suppliers for which evaluations were performed through our Together for Sustainability (TfS) industry initiative and the Pharmaceutical Supply Chain Initiative (PSCI), in addition to those who have proactively allowed themselves to be evaluated. These initiatives should lead to a standardization of the sustainability requirements that suppliers in the chemical and pharmaceutical industries are expected to meet. The exchange and mutual recognition of evaluation and audit results should also create synergies within the respective initiatives.

Step 3: Evaluating sustainability performance

Bayer verifies the observance of the code requirements by the suppliers selected in Step 2 by means of EcoVadis online assessments or through on-site audits or, during the COVID-19 pandemic, virtual audits conducted by both external and Bayer auditors.

The online assessment criteria of EcoVadis – broken down into the areas of environment, ethics, labor practices and human rights, and sustainable procurement – correspond to the requirements of our code and also take into account country- and industry-specific conditions and supplier size. In total, our service provider EcoVadis assessed 670 (2019: 650) suppliers on our behalf in 2020.

In 2020, we also arranged for 26 (2019: 62) of our suppliers to be audited on site by external, independent auditors. In addition, five suppliers were audited virtually due to the global COVID-19 pandemic. The audit criteria included both the specifications of our code and the industry-specific requirements of the TfS and PSCI industry initiatives. In 2020, PSCI carried out a virtual training course for auditors in the areas of health, safety and environmental protection (HSE) as well as labor and human rights.

Furthermore, internal and external auditors evaluate selected new and existing suppliers with a focus on HSE. These audits are performed for suppliers with significant risk potential as regards, for example, substances, production processes, occupational safety or environmental factors, as well as for toll or contract manufacturers with an increased country risk. In 2020, 83 (2019: 103) suppliers were evaluated by means of HSE audits.

Assessments and Audits of Bayer Suppliers¹

	2019	2020
Sustainability assessments ² via the EcoVadis platform	650	670
Sustainability audits ³ by external auditors	62	31
HSE ⁴ audits by external or Bayer auditors	103	83

¹ The online assessments of our suppliers that form part of a group generally takes place at the parent-company level. The number of assessments in 2019 comprises suppliers of continuing and discontinued operations.

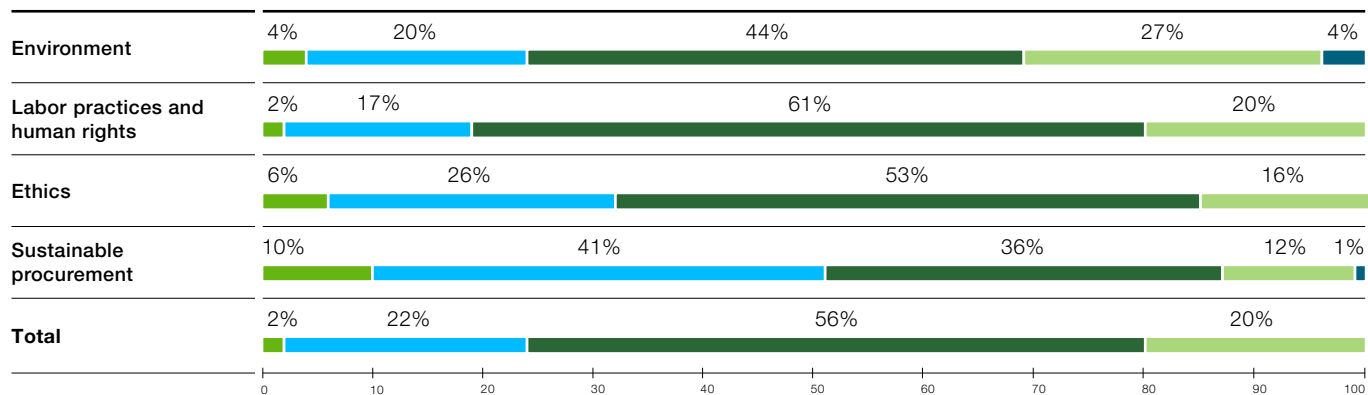
² Initial and re-assessments of suppliers working for Bayer; initiated by Bayer and shared via EcoVadis within the TfS initiative

³ Initial and follow-up audits of suppliers working for Bayer; initiated by Bayer and shared as part of the TfS and PSCI initiatives

⁴ Health, safety and environmental protection

In addition, verification processes were established for the fulfillment of further international regulations such as those requesting companies to disclose the origin of certain raw materials. This applies, for example, to conflict minerals. When surveying our relevant suppliers, we use the internationally recognized Conflict Minerals Reporting Template to identify the use, sources and origin of certain minerals in our supply chain. We communicate in our Supplier Code of Conduct that our suppliers have to ensure that products supplied to Bayer do not contain metals derived from minerals or their derivatives originating from conflict regions that directly or indirectly help to finance or support armed groups and cause or foster human rights abuses. Suppliers who do not meet these requirements are immediately notified that these standards must be complied with and suitable measures initiated.

Evaluating the Sustainability Performance of Our Suppliers



Valuation according to EcoVadis (in points): 0-24 25-44 45-64 65-84 85-100
 Number of suppliers assessed: 670 (as of December 31, 2020)

Step 4: Developing suppliers

The online assessments and on-site audits are analyzed and documented so that specific improvement measures can be defined. In 2020, suppliers who had undergone online assessments by EcoVadis demonstrated the need for improvement in particular in the categories of ethics and the environment, while those who had been audited required improvement in occupational health and safety.

A supplier receives a critical result if a serious violation or several major findings in sustainability performance are identified. In these cases, Bayer requests that the suppliers remedy the identified weaknesses within an appropriate timeframe based on specific action plans. In 2020, this applied to 13 suppliers (2% of all assessed and audited suppliers; 2019: 2% (11)). We monitor the implementation of these activities by way of re-assessments or follow-up audits.

Bayer retains the right to terminate a supplier relationship if no improvement is observed during a re-evaluation. In 2020, Bayer was not prompted to end any supplier relationship due solely to sustainability performance.

Our monthly monitoring shows that 357 (2019: 332) of the 701 (2019: 712) Bayer suppliers evaluated in 2020 improved their sustainability performance.

A key factor in this collaboration is helping our suppliers to improve their sustainability performance. Here we focus both on remedying deficiencies and on collaborating on sustainability topics. To focus more closely on supplier development, in 2020 we expanded our sustainability team in procurement. Procurement employees primarily in countries with an increased sustainability risk such as China, India and Brazil help to develop suppliers at the local level. The focus here is on local sustainability risks.

The industry initiatives TfS and PSCI also organized virtual training courses and workshops for suppliers in India and China in 2020. Through the TfS Supplier Academy and the PSCI online resource library, the respective initiatives offer additional advanced training modules for our suppliers that are being expanded each year. In 2020, that included new webinars on human rights risks and a new PSCI online platform for suppliers featuring training courses, resources and tools.

The TfS initiative continues to test the usability of a collaboration platform involving Bayer suppliers as another element of supplier development. It provides users with numerous best-practice examples and dialogue opportunities, as well as activities, tips, case studies and expert suggestions on the topics of water, energy and waste.

5. Human Rights

Bayer is a founding member of the U.N. Global Compact and respects the Universal Declaration of Human Rights. We support the U.N. Guiding Principles on Business and Human Rights, which are among the most important international standards for preventing and combating possible human rights violations in connection with business activities, and globally recognized declarations applicable for multinational corporations. These include the OECD Guidelines for Multinational Enterprises, the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy of the International Labour Organization (ILO), and the latter's core labor standards.

5.1 Management Approach

Bayer fully supports human rights and has documented its stance in a globally binding [Bayer Human Rights Policy](#). We are committed to respecting and fostering human rights within our own business activities and in business relations. Furthermore, our LIFE values, BASE principles and [Corporate Compliance](#) and Fairness and Respect at Work corporate policies establish how all employees worldwide must conduct themselves fairly and in a compliant manner in dealings with colleagues, business partners and members of the community.

We also expect our business partners, and particularly our suppliers, to fully observe human rights. We expect our suppliers to comply with the requirements of our [Supplier Code of Conduct](#), which is based on our Bayer Human Rights Policy, the principles of the U.N. Global Compact and the core labor standards of the ILO.

Human rights are among the responsibilities of the Chairman of the Bayer Board of Management. In his role as Chief Sustainability Officer, he is supported as regards the topic of human rights by the Ethics and Social Impact Team of the Public Affairs, Science & Sustainability enabling function. The implementation of our human rights standards in business operations is regulated by corporate regulations, processes and management and monitoring systems.

We use a Group-wide, integrated risk management system to identify potentially detrimental effects of our business activity on human rights. The Bayer Risk Universe is regularly reviewed and, if necessary, updated. The increase in internal and external requirements as regards human rights is reflected in our risk management.

We are currently focusing on further developing our human rights strategy. The first step in this process was to work with an external consulting company to analyze the status quo in our own company and along the entire value chain, aligning this to the U.N. Guiding Principles on Business and Human Rights. On the basis of this, we aim to introduce in 2021 a comprehensive, long-term strategy for respecting human rights.

5.2 Implementation Measures

We implement measures to ensure respect for human rights both within our own company and along our entire value chain. Child and forced labor are strictly prohibited at Bayer in accordance with the core labor standards of the ILO. The binding nature of this global ban is established in both our Human Rights Policy and our Supplier Code of Conduct.

In line with the conventions of the ILO, Bayer only offers fixed-term internships and education programs to young people when this does not impair their safety, health and compulsory school attendance in any way and compliance with the requirements is precisely monitored.

If there are indications of violations of our Human Rights Policy, employees and members of the general public can contact the worldwide compliance hotline, which is available in 115 national languages. This can also be done anonymously if desired. Alternatively, employees can also report suspected violations to the respective compliance functions or to the Internal Audit unit.

We offer ongoing training programs to enhance employees' awareness of the importance of human rights in their day-to-day activities. In 2020, more than 80% of our employees received training on aspects of our Human Rights Policy in sessions totaling more than 190,000 hours. Aspects of human rights are also covered in the training offerings and the sustainability manual for our suppliers.

We verify the observation of human rights at our sites and by our suppliers, including by means of Bayer audits. In 2020, our auditors identified a limited number of violations against applicable worktime regulations and established minimum wages in our supply chain. In each of these cases, we actively cooperated with our suppliers to improve the situation for employees in a timely fashion. For more information, please see Chapter 4 Procurement.

To prioritize our measures and further evolve our human rights strategy, we began analyzing and evaluating our human rights risks in 2020 together with an external partner. The results of this risk assessment are expected to be available in 2021 and will be accounted for in our updated Human Rights Policy. In conjunction with the publication of this new corporate policy in 2021, we will offer special training in human rights for all employees.

Challenges in the supply chain

As regards the topic of human rights, we are focusing especially on our supply chains because they connect us with several million “rights holders” – in other words people who are directly or indirectly impacted by our activities. Procurement undertakes a classification of the sustainability risk of our suppliers for this purpose. This risk classification encompasses all procurement countries and categories such as services and seed production, the latter also including seasonal workers. This process, which we revised together with an external partner in 2020, enables us to identify human rights risks by country and category. That in turn allows us to address these risks more directly in the future. For more information, please see Chapter 4 Procurement.

In its supply chain management activities, Bayer undertakes to achieve transparency in the fight against modern slavery. For more information, please see our [Modern Slavery Act Statement](#).

The risk of human rights violations poses a particular challenge for Bayer in the seed supply chain. The focus here is on the risk of child labor.

Combating child labor

Our position on child labor is quite clear – it is not tolerated at Bayer. The employment of children in farming represents a high risk outside our own operations. We therefore obligate our suppliers to strictly refrain from employing children. Through our Child Care Program, Bayer for years has taken systematic action to prevent child labor in the seed supply chain. The program is established in India, Bangladesh and the Philippines – the countries in which we identified the potential for child labor infractions through our risk assessment.

Through our Child Care Program, we raise awareness about this problem among our suppliers and clearly communicate our requirements. It involves systematic and repeated inspections of individual seed producers in their fields by local Bayer employees during the growing season. As an additional quality control measure, a special team from Bayer India carries out sample inspections in the fields in India, Bangladesh and the Philippines, in addition to a general process and documentation review.

Despite the restrictions associated with COVID-19, local teams continued their field inspections wherever possible, while observing the safety precautions. In this context, it was determined that the incidence of child labor in India had increased

due to return migration of the rural population and the enormous challenges associated with the pandemic. It was not possible to conduct sample inspections in the Philippines and Bangladesh in 2020 due to travel restrictions. In 2019/20, we uncovered a total of 14 cases of child labor among our seed suppliers in India (see table). No cases of child labor were identified in Bangladesh and the Philippines over the same period.

We measure the success of our comprehensive program in India using the indicator “Child Labor Incidence in Relation to the Total Number of Laborers Monitored in Seed Production for Bayer.”

Child Labor Incidence in Relation to the Total Number of Laborers Monitored in Seed Production for Bayer Taking India as an Example¹

	Child labor incidence	Total laborers monitored	Child labor incidence in relation to total laborers monitored
	2019/20	2019/20	2018/19 2019/20
Cotton ²	10	62,843	0.01% 0.02%
Rice ²	4	58,273	0.01% 0.01%
Vegetables ³	0	37,553	0% 0%
Corn ³	0	46,584	0% 0%

¹ The figures cover several growing cycles in the cultivation year 2019/20. In India, the growing year under review lasts from the middle of one year until the middle of the subsequent year. Cumulated depiction on the basis of control inspections performed (at least one per growing season for rice and up to six per season for cotton).

² Bayer Child Care Program

³ Child care program of the acquired agricultural business. Harmonization with the Bayer Child Care Program begins in 2021.

We immediately put a stop to instances of child labor among our contractors and closely track them through the measures related to our Child Care Program. We visit the parents of children we find working in the fields to specifically convince them of the advantages of school education. Graduated sanctions are also applied for noncompliance by our suppliers. These range from written warnings to termination of the contract in the case of repeated noncompliance. By contrast, suppliers who can verify that they strictly observe our ban on child labor receive a bonus such as incentive payments. Thanks to a stringent monitoring system and the support of local information and educational initiatives, there are very few instances of child labor among seed producers.

Continuously raising awareness about child labor in the agriculture sector requires extensive measures and the involvement of various stakeholders. Against this background, Bayer joined with other seed companies back in 2019 to establish the Enabling Child and Human Rights with Seed Organizations (ECHO) initiative. ECHO is one of the biggest multi-stakeholder forums for the promotion of children's rights and decent work – which includes fair wages as well as healthy and safe working conditions. Bayer is represented on the initiative's executive committee and currently holds its presidency. The initiative was launched in Hyderabad, India, in 2020 with the first multi-stakeholder consultation on decent workplace standards in the seed supply chain.

Bayer also actively participates in the discussion on due diligence with respect to human rights. Together with a partner, we organized a virtual multi-stakeholder event in the fall of 2020 to discuss a potential framework for human rights due diligence at EU level.

For more information on our cooperation with other seed companies within the Enabling Child and Human Rights with Seed Organizations (ECHO) initiative, please see Chapter 5.2 Implementation Measures.

Human rights: an interdisciplinary topic

Respecting and fostering human rights is an interdisciplinary topic that is ensured at Bayer through different spheres of responsibility. We report in detail on our due diligence with respect to human rights in the relevant chapters, such as:

- // Chapter 6 Employees:
 - // Diversity, compensation including in particular living wages, fairness and respect at the workplace
 - // Prohibition of child and forced labor, and the right to freedom of association
- // Chapter 8 Environmental Protection and Safety:
 - // Health and safety at the workplace
 - // Plant safety to protect employees and the people who live near our production sites
- // Chapter 3 Product Stewardship:
 - // Clinical studies at Pharmaceuticals and Consumer Health
 - // Biodiversity
- // Chapter 4 Procurement: sustainable supplier management

Learning for Life

As school attendance is essential for children's development, Bayer regards this as an effective tool for preventing child labor. That's why the Learning for Life initiative is an integral part of our Child Care Program in India: With advanced training measures in farming, we help disadvantaged young people gain the skills and knowledge needed for modern agricultural vocations and prepare themselves for advanced agricultural employment in villages or companies. The young people who have completed the training program serve as role models for other children to continue pursuing their school education. In combination with the Early Child Education Program implemented between 2005 and 2012/2013, we reached more than 7,000 children and young people with our Learning for Life activities through 2020. This number includes the more than 1,100 school students who successfully completed the career-oriented program between 2010 (the year of launch) and 2020.

5.3 Commitment

We engage in dialogue with other stakeholders on the topic of human rights and actively participate in committees and initiatives established to ensure their observance, for example by contributing to discussions on implementing the National Action Plan (NAP) "Business and Human Rights" in Germany, in the corresponding working groups of econ-sense and, in the supply chain, via our TfS industry initiative and the Pharmaceutical Supply Chain Initiative (PSCI). In 2020, we also joined the Business for Social Responsibility (BSR) initiative and its working group for human rights. The member companies from various industries discuss best practices, challenges and experiences in implementing the U.N. Guiding Principles on Business and Human Rights.

6. Employees

Bayer's success is essentially built on the knowledge and commitment of our employees. As an employer, we focus on our corporate values (LIFE values) and on establishing a dialogue-oriented corporate culture based on trust and respect for diversity and equality of opportunity. We offer our employees attractive conditions and wide-ranging individual development opportunities.

6.1 Management Approach

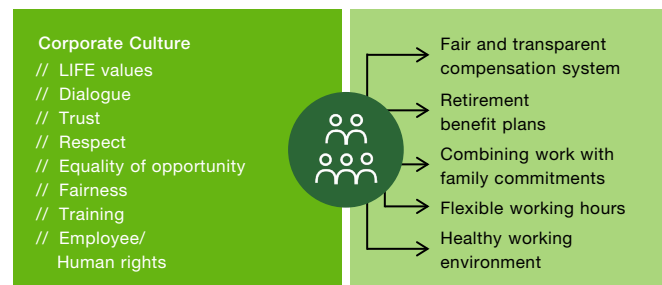
Human Resources (HR) at Bayer assumes leadership of the HR organization and is responsible for Group-wide regulations and standards for employees. Since February 2021, HR has been headed directly by a member of the Board of Management, the Chief Transformation and Talent Officer, who also assumes the function of Labor Director. Specialized organizational units within HR are responsible for the operational design, implementation and steering of the global processes.

Corporate culture

The company aims to create a culture that is based on fairness and respect. This includes observing Group-wide standards of conduct and protecting employees from discrimination, harassment and retaliation. These standards are set forth in our Fairness and Respect at Work corporate policy. Bayer employees around the world are provided with guidance on how to comply with these.

The LIFE values are firmly anchored in our company and give us orientation in aligning our business. The acronym LIFE (leadership, integrity, flexibility and efficiency) symbolizes our values and leadership principles. In 2020, we updated the attributes of the LIFE values to better align them with the new Bayer vision "Health for all, hunger for none." The attributes define the practical importance of the individual values and the behaviors associated with them.

Employees



Numerous external awards and surveys bear witness to our excellent reputation as an employer. These include the awards we received in 2020 as one of the best employers in Germany, China, the United States and Brazil. More than half of the Bayer workforce is employed in these four countries.

Digitalization

Digitalization represents a major opportunity for Bayer and its employees. HR already uses robotic process automation and artificial intelligence in some of its processes and continuously assesses the further introduction of new technologies such as artificial intelligence or automation to reduce manual activities.

HR views its task as systematically preparing our employees for the digital evolution through special training courses.

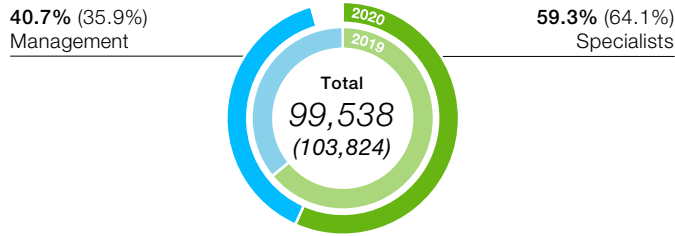
For example, more than 10,000 employees have already taken part in the Create Digital Mindset and Skills training program to learn digital skills in areas such as artificial intelligence, data science, design thinking, agile framework and innovation. We also implemented a digital learning platform based on artificial intelligence (AI) for advanced training that supports our employees' learning ambitions with small course units, short learning steps (microlearning) and content they can work through at their own pace.

To provide background information for the Group's digital transformation, more than 75% of the members of the Group Leadership Circle, the most senior management level below the Board of Management, received training in digital topics in 2020.

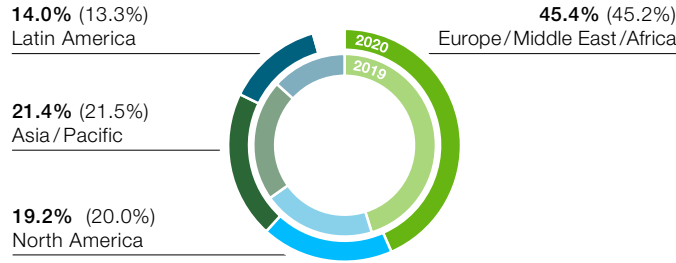
In 2020, the framework of the LIFE values was updated to include "strengthening digitalization."

Employee Data¹

Total Employees 2020 (2019)

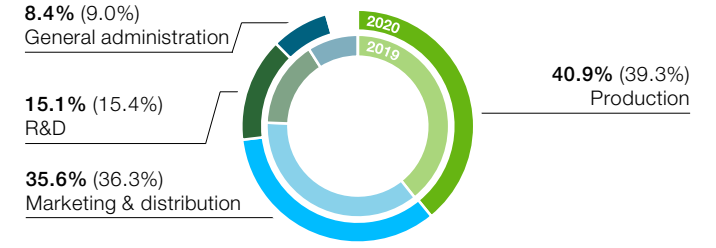


Employees by Region 2020 (2019)



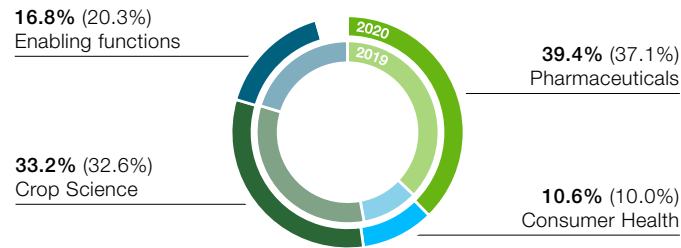
	2019	2020	Change %
Europe/Middle East/Africa	46,933	45,146	-3.8%
North America	20,735	19,111	-7.8%
Asia/Pacific	22,341	21,310	-4.6%
Latin America	13,815	13,971	1.1%

Employees by Function 2020 (2019)



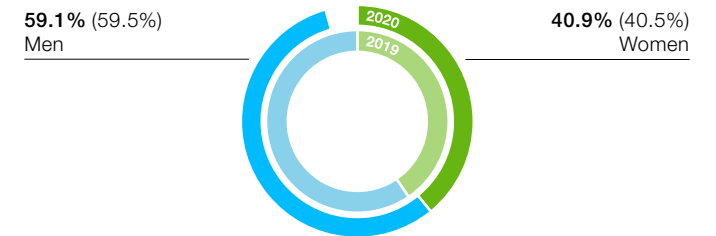
	2019	2020	Change %
Production	40,814	40,696	-0.3%
Marketing & distribution	37,665	35,424	-5.9%
R & D	16,006	15,065	-5.9%
General administration	9,339	8,354	-10.5%

Employees by Division 2020 (2019)



	2019	2020	Change %
Crop Science	33,866	33,064	-2.4%
Pharmaceuticals	38,553	39,206	1.7%
Consumer Health	10,400	10,570	1.6%
Enabling functions	21,005	16,698	-20.5%

Employees by Gender 2020 (2019)



	Women		Men	
	2019	2020	2019	2020
Europe/Middle East/Africa	20,609	19,971	26,323	25,174
North America	7,799	7,232	12,936	11,879
Asia/Pacific	8,542	8,174	13,799	13,136
Latin America	5,089	5,325	8,727	8,647
Total	42,039	40,702	61,785	58,836

¹ Number of employees in full-time equivalents (FTE)

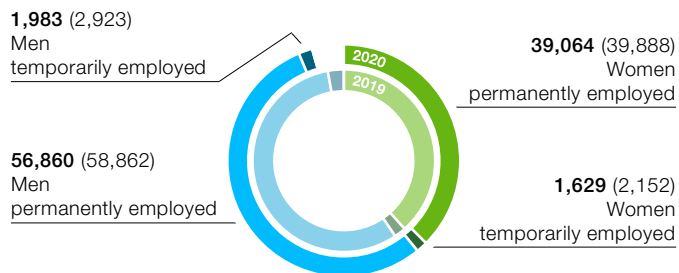
6.2 Employee Data

On December 31, 2020, Bayer employed 99,538 (2019: 103,824) people worldwide. In Germany, we had 23,398 (2019: 24,953) employees, which was 23.5% of the total Group workforce (2019: 24.0%). For further employee data, please see the [2020 Annual Report](#).

Employment status and new hires

Within Bayer's workforce, 3.6% of employees (1.6% of women and 2% of men) have temporary contracts. On the reporting date, our employees had worked for the Bayer Group for an average of 11.3 years.

Employees by Employment Status, Gender and Region 2020 (2019)

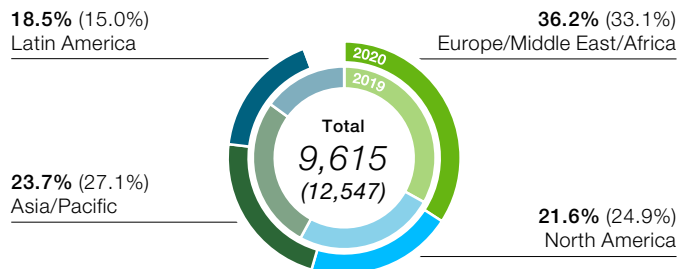


	Permanently employed		Temporarily employed	
	2019	2020	2019	2020
Europe/Middle East/Africa	44,661	43,109	2,272	2,037
North America	19,102	18,928	1,633	183
Asia/Pacific	21,644	20,547	696	763
Latin America	13,343	13,343	473	629

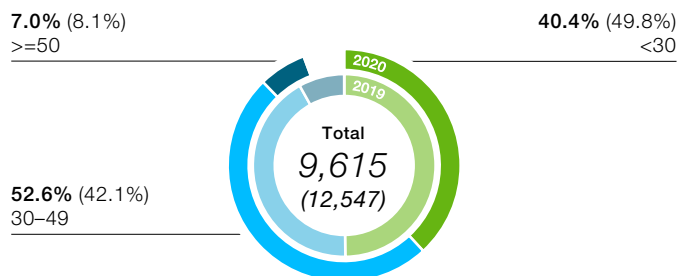
In total, the Bayer Group hired 9,615 new employees in 2020, accounting for 9.5% of the workforce.

New Hires 2020 (2019)

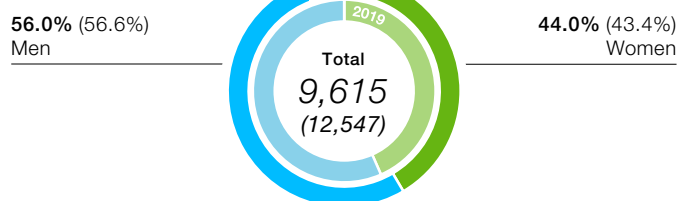
by Region



by Age Group

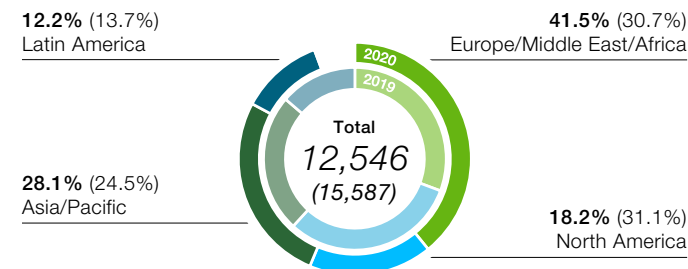


by Gender

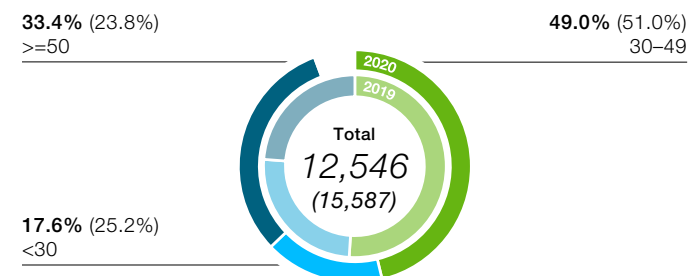


Fluctuation of Employees 2020 (2019)

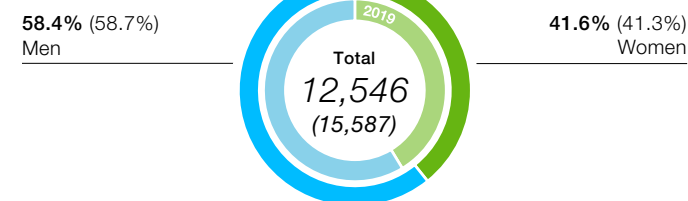
by Region



by Age Group



by Gender



The overall fluctuation rate was 12.3%, a decrease of 2.7% compared with 2019. This figure includes all employer- and employee-driven terminations, retirements and deaths.

Fluctuation				
%	Voluntary		Total	
	2019	2020	2019	2020
Women	7.2	5.1	15.3	12.3
Men	6.2	4.7	14.7	12.2
Total	6.6	4.9	15.0	12.3

2019 figures restated

Bayer uses temporary employees from staffing agencies primarily in response to short-term personnel requirements, fluctuations in order levels, temporary projects or as replacements for employees suffering a long-term illness. In some countries, staff are employed via agencies for seasonal work. On December 31, 2020, some 8,100 temporary employees from staffing agencies were working for Bayer. In Germany, the proportion of such temporary employees from staffing agencies compared with the total for the core workforce was 1.4%.

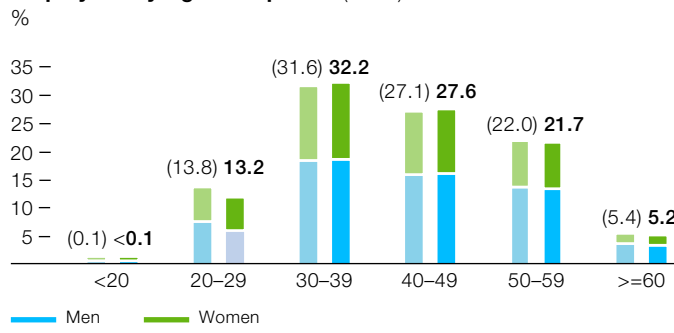
Demographics

We want to create an optimal working environment for our employees in all life phases and thus safeguard the long-term availability of specialists and knowledge transfer. We take a range of steps to address the individual needs of our employees by offering age-appropriate jobs in addition to health and well-being programs, flexible working arrangements and active knowledge management.

Through the Bayer Senior Experts Network (BaySEN) initiative, selected experts can continue to contribute their expertise even after retirement by temporarily working for Bayer in certain projects or for special tasks. In this way, BaySEN supports demographic diversity as well as cooperation and learning by different generations with and from one another.

The average age of our employees Group-wide is 42.

Employees by Age Group 2020 (2019)



The demographic situation differs greatly from one region to another.

Employees by Gender, Region and Age Group

	Europe/ Middle East/Africa	North America	Asia/ Pacific	Latin America
Women	19,971	7,232	8,173	5,325
<20	12	-	1	3
20-29	2,256	668	1,905	1,051
30-39	5,784	1,764	3,773	2,247
40-49	5,837	2,163	1,883	1,453
50-59	5,185	1,882	567	513
>=60	896	756	44	58
Men	25,174	11,879	13,137	8,647
<20	11	2	6	13
20-29	2,557	1,183	2,330	1,213
30-39	6,669	3,101	5,539	3,185
40-49	6,696	3,402	3,303	2,732
50-59	7,356	3,035	1,786	1,277
>=60	1,886	1,156	173	228

In Germany, the updated General Works Agreements on lifetime working and demographic change and on addressing demographic change at the nonmanagerial level at Bayer are among the tools we use to help shape the working environment for all life phases. These General Works Agreements provide for a reduction in employee workloads that was extended to further age groups, as well as measures to ease the return to work of nonmanagerial employees after

long-term illness, and an extensive health screening program for all employees. In 2020, more than 97% of those who were eligible took part in the program to reduce the workload of older employees. Through the BayZeit long-term account, furthermore, employees in Germany can convert part of their gross salary already in the early years of their employment into free time that they can later take off.

Restructuring measures

We act with social responsibility when changes and restructuring measures are necessary. For example, we will complete the worldwide reduction of around 12,000 jobs initiated in late 2018 by the end of 2021 following local laws and regulations, meaning that there may be different solutions in different countries. In all countries we aim to minimize the impact on employees and find mutually agreeable solutions in cases where job reductions are necessary. The Safeguarding Bayer's Future 2025 General Works Agreement fundamentally rules out dismissals for operational reasons for the intercompany personnel network of Bayer AG in Germany until the end of 2025.

We made further progress with the planned Group-wide measures in 2020. In total, around 10,700 positions have been shed through these measures. Flexible models with attractive conditions have been offered to employees of various age groups since February 2019. More than 2,200 employees in Germany have accepted such a voluntary severance agreement since it was introduced.

Further measures with regards to the acceleration of our transformation announced in September are currently being developed.

6.3 Fair Compensation

As a global enterprise, Bayer enacts uniform standards to ensure that employees are fairly compensated throughout the Group. Our performance and responsibility-related compensation system combines a basic salary with performance-related elements, plus additional benefits. Adjustments based on continuous benchmarking make our compensation internationally competitive.

We attach great importance to equal pay for men and women, and to informing our employees transparently about the overall structure of their compensation. Our Total Rewards corporate directive provides a binding framework specifying the global requirements.

We initiated a gender pay parity analysis in 2020 that compares the compensation of our female and male employees in comparable positions and within the same country. We will report on the results once the analysis has been completed.

Living wages

Bayer compensates employees on both permanent and temporary employment contracts in excess of the statutory minimum wage in the respective countries, paying at least a living wage that is annually reviewed and specified worldwide by the nonprofit organization Business for Social Responsibility (BSR). This also applies to part-time employees whose compensation was proportionately aligned with that of a full-time position. The payment of living wages is implemented at the country level and reviewed each year by the HR enabling function to ensure that the requirements of the BSR are observed throughout the Group.

A living wage is defined as the wage that is required to purchase the goods and services needed to meet a minimum cultural and social standard of living in a country – including basic needs such as accommodation, energy and food, but also leisure activities, cultural participation and a savings rate. In other words, the concept of a living wage goes beyond the otherwise customary statutory minimum wage. In addition, living wages are adapted annually to changing conditions in specific countries, while statutory minimum wages usually remain unchanged for several years. Although minimum wages are legally established in many countries, they often are not sufficient to enable a living standard above the poverty line. By integrating the living wage concept into our operations, we also support the Universal Declaration of Human Rights and the global Sustainable Development Goals (SDGs) of the United Nations.

Compensation structures at Bayer

At Bayer, individual salaries are based on each employee's personal and professional abilities and the level of responsibility assigned to them. At the managerial level, this is based on a uniform evaluation approach for all positions throughout the Group using the internationally recognized Hay method. In areas of the Bayer Group and jobs covered by a binding collective bargaining agreement, there are no differences in pay based on gender. In the emerging markets and developing countries, compensation levels are aligned to local market conditions.

In the majority of cases, full- and part-time employees at our significant locations of operation receive the same rates of fixed and variable pay. Our compensation concept also includes variable one-time payments to recognize outstanding performance. In many countries, employee stock programs enable our staff to purchase Bayer shares at a discount. Depending on statutory requirements, employees on temporary contracts may not be entitled to long-term compensation components such as pension plans in some countries. Beginning in 2021, the variable compensation of our upper managerial employees will also take into account the attainment of the Group's sustainability targets. For more information, please see the 2020 Annual Report.

Retirement benefits

Alongside providing attractive compensation for their work, Bayer contributes to the financial security of its current and former employees. Retirement benefit plans are available to 71% of Bayer employees worldwide to complement national pension systems. The benefits provided depend on the legal, fiscal and economic conditions in each country, employee compensation and years of service.

Availability of Retirement Benefit Plans¹

%	2019	2020
Europe/Middle East/Africa	86	81
North America	98	99
Asia/Pacific	52	32
Latin America	66	62
Total	78	71

¹ In addition to state pension insurance

6.4 Learning and Training

Employees have wide-ranging ongoing training opportunities open to them. We bundle our Group-wide continuing education offerings in the Bayer Academy, which offers professional training for all employees and has received numerous international awards. Full- and part-time employees, as well as contingent workers, complete required compliance and job-specific related training through in-person and web-based courses.

The Bayer Leadership Academy offers courses designed to systematically develop managerial employees. The courses accompany the managers from their first leadership roles to future duties in upper management.

Functional academies such as the Innovation Academy, IT Academy and R&D Academy offer advanced training for employees in various disciplines. Our employees can further enhance their specialist knowledge through continuous, advanced professional training at more than 40 of these functional academies and learning organizations.

Since 2018, our employees have also been able to access a comprehensive eLearning library that is available at any time without commitment to defined course times. All employees can access contents suitable for their needs and put together an individually tailored learning plan in line with their development requirements. The courses are free of charge for full-time and part-time employees, and approval by supervisors is not required. In this way, we are meeting modern workplace learning requirements and creating a sound infrastructure for standardized qualification throughout the Bayer Group. The eLearning library currently includes more than 27,000 courses and offers not just specialized contents for individual occupational groups and disciplines, but also overarching themes for a broad target group within the company. To further expand the range of available courses, we have provided our employees with access to an additional external learning platform since December 2020 at which they can take courses that are updated each month.

Learning and training hours amounted to 27.7 hours per employee in 2020. The average cost of ongoing training per employee was €481.

Learning and Training Hours by Employee Group and Gender 2020

	Women	Men	Total
Employee Group			
Upper management	16.0	15.7	15.8
Lower management	24.3	21.8	22.9
Specialists	28.3	33.0	31.0
Overall average	26.6	28.5	27.7

Vocational training

To meet the need for skilled employees, Bayer hires apprentices, primarily in Germany, in more than 25 different occupations. We employed around 1,300 apprentices overall in 2020 (of which 31% were women). Bayer also offers trainee programs in various areas for those embarking on a career and internships for students around the world.

6.5 Employee Development and Integration

Bayer promotes a culture of candid feedback and encourages feedback in all directions: from supervisors to employees, between colleagues and from employees to supervisors.

Our managerial employees serve as role models and play an important part in promoting performance and further developing the feedback culture at Bayer. Supervisors have the opportunity to ask their team for feedback about their leadership behavior. The Leadership Pulse feedback tool helps them to understand how their team perceives them in their role as a manager.

In 2020, Bayer's new virtual mentoring approach became available to all full-time and part-time employees globally, enabling our people to leverage mentoring self-directly as an opportunity to develop themselves and others. The program is supported by an algorithm based on artificial intelligence that brings together mentors and mentees from throughout the Bayer Group. Since the launch, more than 2,400 employees have registered; 47% of participants are women and 53% are men.

Performance targets and development dialogue

Our employees and supervisors jointly set flexible annual targets. In consultation with their supervisors, employees can select targets of relevance for themselves and their work areas, as well as make flexible adjustments to the targets during the evaluation phase. Both individual and team targets can be set. In 2020, 72% of eligible employees set flexible annual targets, 43% of these female and 57% male.

79% of our employees (66% of our specialists and 99% of our managers) can participate in a year-end evaluation concerning the fulfillment of the targets they set for themselves. At the end of 2020, 97% of the entitled employees (43% female and 57% male) received an evaluation concerning the fulfillment of the targets they set for themselves. In addition, employees can regularly and openly discuss their performance, challenges, ideas and well-being with their supervisors in so-called check-ins.

Managerial employees throughout the Group have the option of presenting Top Performance Awards to reward outstanding individual and team successes. These involve a variable payment to reward employees directly in a timely fashion. Additional recognition programs are in place in some countries to reward employee performance. In many countries, employees are recognized with years of service awards.

Thanks to our wide-ranging business activities, employees throughout the Bayer Group can access various opportunities for development. In regular development dialogues, employees discuss perspectives for their further career development together with their supervisors. More than 53,000 development dialogues were held and documented in 2020.

In total, 52% of our employees participated in the development dialogues (of which 44% were women and 56% men; in total 44% of our specialists and 64% of our employees in management).

Vacancies throughout the Bayer Group, from nonmanagerial right up to upper management level, are advertised via a globally accessible platform.

Scientists

To maintain the fascination of research employees such as scientists for Bayer, we offer them special development opportunities that are tailored to their requirements. These include new scientific challenges, special advanced training offerings and a career path either as experts or as managers in various Bayer regions, functions or divisions. Through our Science Fellows Community, we talk to our outstanding scientific experts about their own career development. Special mentoring programs are established to support employees' early development and regular networking with experienced scientists and managers. To continue to attract scientists in the future, we are further developing our employment offering and working with specialized recruiting partners to this end.

Dialogue and exchange

Our employees have the opportunity to discuss company-specific topics and scope for optimization via various communication channels. We actively involve our employees in business processes by offering the opportunity for dialogue. Informing staff in a timely manner and comprehensively about upcoming changes, in compliance with the applicable national and international regulations, is very important to us.

We measure employee engagement at Bayer by means of institutionalized feedback discussions and regular employee surveys. This enables us to monitor the effectiveness of our initiatives and implement any necessary improvements. Division-specific employee surveys were conducted at Crop Science and Consumer Health. We also carried out employee surveys within our enabling functions. The approval rate for employee engagement was 80% (2019: 73%) at Crop Science, 81% (2019: 75%) at Consumer Health and 80% in the enabling functions.

We engage in open and trustful dialogue with employee representatives worldwide. The main dialogue formats are regular employee assemblies and information events for managers, as well as the European Forum, at which employee representatives from all European sites engage in discussion with the Board of Management on topics of overarching relevance to the company.

Our employees can submit Bayer-related questions through the internal crowdsourcing platform WeSolve to solicit innovative, interdisciplinary ideas. These are then answered with the help of other employees with whom the person asking the question does not normally have any contact.

To promote a culture of innovation in the workplace, additional platforms for making work-related suggestions are available to employees in Germany e.g. the Bayer Ideas Pool and the Ideas Forum. The suggestions made by employees on improving processes, occupational safety and health protection are rewarded and utilized. More than 2,700 ideas were submitted in 2020. 45% of the suggestions for improvement evaluated in 2020 were implemented. In the first year of implementation alone, those improvements that led to quantifiable benefits generated savings of some €3.9 million. In 2020, Bayer distributed bonuses of around €1.1 million for the implemented proposals.

6.6 Work-Life Integration

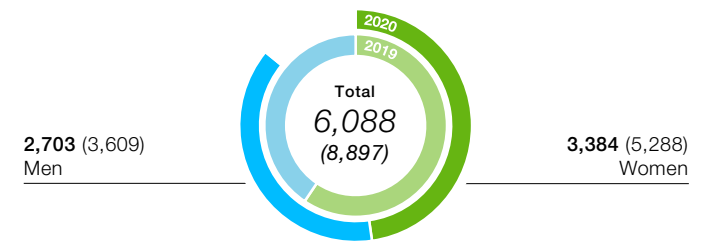
We support our employees in balancing their work and private lives. To take their individual situation into account, we therefore give them the opportunity to flexibly shape their working hours and work locations and offer them parental leave and support in childcare and caring for close relatives. In many countries, our commitment in this area goes beyond the statutory requirements. An overview of the offers in each country can be found [online](#).

The next normal

In response to the COVID-19 pandemic, Bayer permanently expanded the flexible shaping of working hours and work locations for the employees and thus created a “next normal” in this regard. This makes it easier for the employees to meet both their work responsibilities and their private obligations. It also helps keep our employees safe and limit the spread of the pandemic. The increased use of flexible working models is part of our next normal, in which our employees are given more flexibility and responsibility at all hierarchy levels (empowerment). In compliance with the requirements of (labor) law and considering cultural differences, we want to account for the needs of our employees and our customers and thus strengthen our business operations.

In 2020, part-time employees accounted for around 6.1% of the Bayer Group workforce (corresponding to 8.3% of our female employees and 4.6% of our male employees), primarily in Europe.

Part-Time Employees by Gender 2020 (2019)



Bayer enables both men and women to take parental leave, although national parental leave regulations vary widely from country to country. 1,755 women and 1,624 men took parental leave in 2020. In the course of the year, 3,022 employees on parental leave returned to work.

The next table shows for Germany (as an example) the number of employees who have returned to work after selecting the standard statutory parental leave program of up to three years per child. By the end of 2020, 68.4% had returned to work. 54.7% women and 83.3% of men who have taken parental leave since 2018 have returned to work.

	Women		Men		Total	
	%	Number	%	Number	%	Number
Employees on parental leave since 2018	52	1,143	48	1,056	100	2,199
of which still on parental leave/dormant contract	33	373	4	40	19	413
of which returned by 2020	62	707	91	959	76	1,666
of which with terminated contract ¹	6	63	5	57	5	120

¹ This includes employer- and employee-driven terminations, severance agreements and departures following the expiration of employment contracts

Bayer in Germany has agreed on uniform conditions for mobile working through a General Works Agreement with the Works Council. Through this, employees have the freedom to work remotely on certain days after consulting with their supervisor. As a result of the COVID-19 pandemic, employees made frequent use of mobile working. In addition, through the BayZeit long-term account, employees in Germany can convert part of their salary into free time, which they can later take off to care for children or close family members, or to take part in an advanced training course, for example.

The General Works Agreement on caring for close relatives helps Bayer employees in Germany to combine working with their role as caregivers through adapted worktime models and temporary paid leave.

6.7 Inclusion and Diversity

Mutual understanding and a company culture that leverages talented employees of various backgrounds and perspectives is an important success factor for the Bayer Group. We create a working environment in which all employees feel welcome and can perform at their best. We want to continue to recruit and promote employees who both have top skills and qualifications and reflect our strong focus on inclusion and diversity. We employ people from around 149 countries.

Our Inclusion & Diversity strategy focuses on the integrative behavior and decision-making of all employees within the Group. To this end, we have established committees for integration and diversity at various management levels. In the future, we intend to integrate Inclusion & Diversity into HR processes e.g. in the recruitment and promotion of employees (talent management).

Promoting inclusion and diversity

We want to increase the proportion of women in top management to 33% by 2025. The proportion of women at all further management levels (including upper and lower management) is targeted to increase to 50% by 2025. The goal is to increase the proportion of women in top management to 50% by 2030. We have also defined additional targets for 2025 and 2030 for further diversity dimensions including age structure, nationality, experience, LGBTQ+ and people with disabilities. Further diversity dimensions such as ethnic background are integrated into the targets for our regional organizations.

In 2020, our top-level managers underwent additional training in integrative management and the further development of our talent management with a focus on diversity. For information on the gender pay parity analysis initiated in 2020, please see Chapter 6.3 Fair Compensation.

Business Resource Groups

The Inclusion & Diversity strategy also incorporates Business Resource Groups (BRGs), which facilitate networking and thus dialogue and mutual support for employees within the Bayer Group. The BRGs help us to cultivate an inclusive and diverse company culture. BRGs currently exist at Bayer for women, LGBTQ+, employees with disabilities, families and other global and regional employee groups, including with respect to ethnic origin.

Three of our BRGs were each assigned a different sponsor from Bayer AG's Board of Management in 2020. The intent here is for the members of the Board of Management to advise and support the BRGs as mentors, as well as for the Board members to gain a multicultural perspective – and thus further develop inclusion and diversity in our company culture.

- // BLEND (BRG for lesbian, gay, bisexual and transgender [LGBTQ+] employees and their supporters at Bayer); sponsored by Heiko Schipper, Board of Management member responsible for Consumer Health
- // ENABLE (BRG for the advancement of employees with diverse abilities); sponsored by Liam Condon, Board of Management member responsible for Crop Science
- // GROW (BRG for the advancement of women); sponsored by Stefan Oelrich, Board of Management member responsible for Pharmaceuticals

People with disabilities are an integral part of our workforce. Based on voluntary statements by employees, we employ more than 2,150 people with disabilities in 31 countries, 46% of whom are women and 54% men. That represents around 2.1% of our total workforce. Most employees with disabilities work for our companies in Germany, where they made up 4.5% of the workforce in 2020.

Gender equality

Bayer advocates the promotion of gender equality. We have endeavored for many years to achieve a better gender balance in management. For that reason, we have set ourselves clear targets that we aim to achieve by 2025.

The proportion of women in upper management in 2020 was 36.1%. The proportion of women in the Group Leadership Circle, the highest management level in the Bayer Group below the Board of Management, increased again compared to previous years. By the end of 2020, it was made up of 23% women (compared to 6.5% as reported in 2010) and 77% men (2010: 93.5%). The Group Leadership Circle currently comprises 35 nationalities, with around 65% of its members working in their native country.

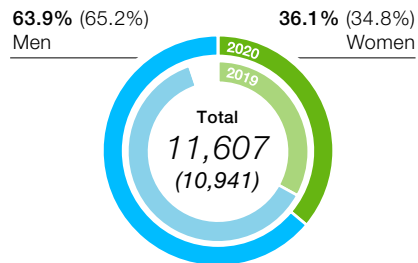
Since February 2021, the Board of Management has again had one female member, thus meeting early the target set in 2019. The company's Supervisory Board should be composed of at least 30% women or 30% men. The Supervisory Board meets this target, with women making up 35%. For more information, please see the Declaration by Corporate Management in the [2020 Annual Report](#).

As a signatory to the United Nations [Women's Empowerment Principles](#), we pursue an inclusive approach. Diversity is integrated into all relevant human resources processes and driven forward by the management. The seven Women's Empowerment Principles sum up how women can be empowered in the workplace, on the employment market and in the community.

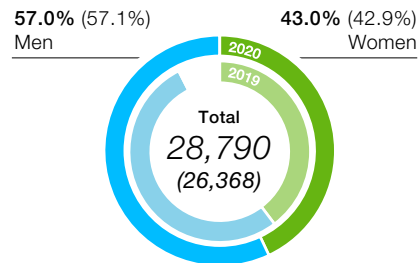
We also support the Diversity Charter corporate initiative and are a founding member of the German "Chefsache" network. Together with the other members, we develop practically oriented strategies to drive diversity and gender balance in the respective organizations.

Employee Structure of the Bayer Group 2020

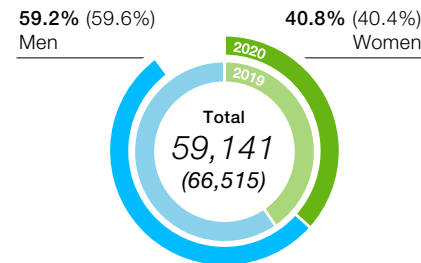
Upper management



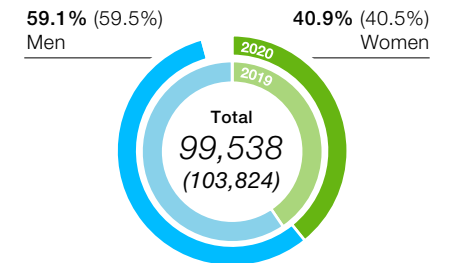
Lower management



Specialists



Group



6.8 Health Provision

“Health for all” is a core element of our corporate vision, which is why the health of our employees is of the utmost relevance for us. We have established health provision programs for our employees and support their access to reliable and high-quality health care. For information on our occupational health and safety measures, please see Chapter 8.6 Occupational Health and Safety. In 2020, we maintained our global framework concept BeWell@Bayer to promote our employees’ health and quality of life. This expands the core aspect of health into a comprehensive approach, targets further health improvements in the daily work environment and is intended particularly to help employees balance their professional and private lives. Health check-ups are an integral part of our global health promotion initiatives.

Our occupational health management activities include many standard preventive programs, ranging from ergonomic workplace and stress management initiatives to incentive systems to promote healthy behavior. Employees can access these programs through Bayer’s intranet and through internal and external company benefits platforms. Our employee representatives are included in occupational health management and are actively involved in its development. The Bayer European Forum – which brings together management and employee representatives – has signed the Luxembourg Declaration on Workplace Health Promotion in the EU and is committed to the principles contained therein on the implementation of workplace health promotion.

We want to provide employees in all countries with access to reliable and high-quality health care. Almost 97% of our employees worldwide either have statutory health insurance or can obtain health insurance through the company.

Health Insurance Coverage¹

%	2019	2020
Europe/Middle East/Africa	98	99
North America	99	96
Asia/Pacific	95	97
Latin America	97	94
Total	98	97

¹ Financially supported by the employer

COVID-19 response

In the context of the COVID-19 pandemic, we have ensured that our employees worldwide are sufficiently covered by the health insurance policies that we promote as their employer for cases linked to the pandemic. Statutory changes with respect to health insurance and health care services in connection with COVID-19 are continually monitored and updated as necessary. In certain countries, additional health benefits were introduced to provide services beyond the statutory needs.

For information on our measures in that area, please see Chapter 8.6 Occupational Health and Safety.

6.9 Employee Rights

Employees at all Bayer sites around the world have the right to elect their own representatives. In 2020, the working conditions for around 55% of our employees worldwide were governed by collective or company agreements. At various country companies, the interests of the workforce are represented by elected employee representatives who have a right to be consulted on certain personnel-related decisions.

Proportion of Collective Agreements by Region¹

%	2019	2020
Europe/Middle East/Africa	80	80
North America	2	2
Asia/Pacific	51	48
Latin America	54	52
Total	55	55

¹ Percentage of employees covered by collective bargaining agreements or company agreements, especially with respect to wages and working conditions

The contractually agreed working hours of our employees do not exceed 48 hours a week at any of our significant locations of operation.

7. Climate Protection

Climate change affects us all and is one of the greatest challenges that humankind will face in the future. Bayer considers climate protection and the related reduction of greenhouse gas emissions to be a top priority. We anticipate that our business areas of health care and agriculture will be impacted by climate change but will also be part of the solution.

7.1 Management Approach

The Chairman of the Board of Management holds direct responsibility for climate protection in his role as Chief Sustainability Officer. He is supported in this by the Public Affairs, Science & Sustainability enabling function and the sustainability departments within the divisions. The divisions handle the operational implementation of the climate protection measures at their sites with the support of the enabling functions. The Sustainability Council was established in 2020 to advise the Board of Management in the future in all matters related to sustainable development – including climate protection. The ever-present global relevance of climate change also explains the increasing importance of this topic at Bayer. For example, climate change and Bayer’s climate strategy were discussed at a total of three meetings of the Board of Management and one Supervisory Board meeting in 2020.

Bayer supports the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) with respect to reporting on this topic. In our report, we implement the 11 recommendations of the TCFD in the four categories of

Governance, Strategy, Risk Management and Metrics & Targets. For more information, please see our separate [TCFD report](#).

7.2 Climate Strategy

We support the Paris Agreement and the objective of limiting global warming to 1.5 degrees Celsius relative to the pre-industrial level. In 2019, therefore, we made climate neutrality at our own sites a Group target for 2030 within our climate program. We plan to attain this target partly by reducing our emissions (Scope 1 and 2) by 42% (base year: 2019) in absolute terms and partly by offsetting the remaining emissions (Scope 1 and 2). We also strive to reduce the relevant emissions in our value chain (Scope 3) by 12.3% in absolute terms. These reduction goals were confirmed by the Science Based Targets initiative (SBTi). The attainment of these targets is accounted for in the compensation of the Board of Management and managerial employees. For more information on our Group targets, please see the Chapter Sustainability Strategy.

Commitment to climate

We are committed to the objective of the Paris Agreement. As a signatory to the [Business Ambition for 1.5°C](#) initiative, we strive to attain net zero emissions in our entire value chain by 2050. In this way, we are helping to

protect the health of people, animals and plants, and to conserve ecosystems.

We are also dedicated to a climate policy that is in harmony with our ambitious climate targets. We therefore support decarbonization measures through our membership in industrial associations, whose positions and actions affecting climate policy we regularly examine critically.

We have set additional targets at Crop Science to reduce agriculture’s carbon footprint, since this currently accounts for about 25% of global emissions. By 2030, we want to help lower greenhouse gas emissions per kilogram of harvested produce in major agricultural markets by 30%. This applies to the most emissions-intensive crops in the regions where Bayer operates. For example, we will support farmers in the use of climate-friendly practices so that they release less CO₂ thanks to measures such as reduced plowing and the application of digital solutions in their fields.

To achieve both the Group target of climate neutrality and the Science Based Targets, we will implement various measures in the future in the areas of energy efficiency, energy sources, compensation and value chain:

// We will spend €500 million through 2030 to attain an absolute reduction in our emissions through energy efficiency measures. We are investing in process innovations, more efficient facilities and building technology, as well as the implementation and optimization of energy management systems, particularly at our production sites. We also use an internal CO₂ price of €100 per metric ton when calculating our capital expenditure projects.

// Worldwide, we will source 100% of our procured electricity from renewable energies by 2030. As this electricity is generated without emitting greenhouse gases, its exclusive use enables an absolute reduction of our own greenhouse gas emissions (Scope 2). We are focusing here above all on establishing long-term electricity purchase agreements with renewable energy producers that operate close to our sites wherever possible. Whenever an electricity supply agreement is not possible, we purchase high-quality green electricity certificates. We are also examining options for producing our own electricity from regenerative energy at our sites.

We will not be able to make all our production processes CO₂ neutral and will still have to use fossil fuels in chemical processes or special manufacturing methods. In this connection, greenhouse gas emissions not only result from combustion, but also through chemical reactions in processes required for engineering reasons.

// We will fully offset these unavoidable emissions (Scope 1 and 2) by 2030 through certificates from compensation projects, especially in reforestation, forest conservation and agriculture. In selecting projects, we pay particular attention to ensuring that they enable long-term CO₂ capture (permanence) and that this would not take place

without the sale of certificates (additionality). In addition, we have established further internal quality requirements such as the certification of projects according to internationally acknowledged standards. We also give preference to projects that not only achieve CO₂ capture, but also provide social benefit for disadvantaged population groups. Yet it is also especially important to us to promote biodiversity and water conservation and to prevent the development and spread of deserts. We already offset 200,000 metric tons of CO₂ in 2020, for example by financing reforestation and forest conservation projects in Uruguay, Brazil and China.

// To enable a future reduction in the emissions of our upstream value chain (supply chain, Scope 3), we undertook a Scope 3 analysis in 2020 to identify relevant reduction potentials. Possible implementation measures include giving suppliers incentives to use electricity from renewable energies, further optimizing our logistics and reducing packaging. Within the scope of the Together for Sustainability (TfS) industry initiative, Bayer heads up the working group on emissions reduction in the supply chain, which aims to identify possible levers and develop improvement measures. In accordance with the guidelines of the Science Based Targets initiative (SBTi), the calculation of our reduction target for Scope 3 emissions takes into account five categories that make up the biggest portion of our Scope 3 emissions (88%). We disclose the categories and the associated Scope 3 emissions in Chapter 7.4 Greenhouse Gas Emissions.

7.3 Risk and Opportunity Analysis

In 2020, we looked at the risks and effects of climate change from various perspectives to better evaluate them as regards our company and integrate them into our strategy and measures. Climate-related risks are already accounted for in our Group-wide Enterprise Risk Management (ERM). We plan to further intensify this aspect in the future, in doing so addressing the recommendations of the TCFD.

We will conduct a scenario analysis in 2021 based on the internationally acknowledged scenarios SSPs (Shared Socioeconomic Pathways) and RCPs (Representative Concentration Pathways) of the Intergovernmental Panel on Climate Change (IPCC). This analysis is designed to help us assess the impact of climate change on our business strategy through 2030 and 2050 and to derive relevant decisions. To better prepare for tomorrow's challenges, we are analyzing scenarios both for the achievement of the Paris objectives and for global warming of 3.5 degrees Celsius. Here we distinguish between physical and transition risks and opportunities.

Short-term (extreme) weather events and long-term climate changes, whose intensity can vary according to region, present a challenge in particular for the agriculture industry. There are increasing risks of harvest losses and thus for the agricultural value chain as a whole. The Crop Science Division therefore takes weather and climate aspects into account when evaluating the risks for its business and aligning its business strategy.

With our strategy for achieving climate neutrality and reducing greenhouse gas emissions along a path of 1.5 degrees Celsius, we are reducing the risk of possible higher costs as a result of new or more expensive emissions allowances.

We continuously analyze the further effects of regulatory requirements on our business, such as through the EU Green Deal. National or international CO₂ reduction targets could lead to the abandonment of fossil fuels, for example. At the same time, regulatory authorities have been critical of the generation of fuels from biomass (biofuels). Depending on the regulators' decision, this could lead to either increased or reduced demand for biofuels. This decision could impact our sales markets, as some of our customers grow corn for the production of biofuels.

In addition to risks, however, climate change can also create opportunities for our business. Bayer's product range and innovation capability – particularly in the agricultural value chain – will create a foundation for leveraging new options and sales opportunities in the future against the background of climate change. As one of the world's biggest CO₂ emitters, for example, the agriculture industry can help to protect the climate – for example by capturing CO₂ in farmland.

Bayer Carbon Initiative

We launched the Bayer Carbon Initiative in 2020 to attain our target of a 30% reduction in greenhouse gas emissions from farming by 2030. This underscores the central role that farmers and their fields can play in having a positive long-term environmental impact. Encouraging farmers to forgo plowing, precisely determine their nitrogen

requirement or utilize cover crops enables greenhouse gas emissions to be lowered and CO₂ to be better captured in the soil. Some 700 farmers in Brazil and the United States are participating in the program during the 2020/2021 growing season. In both countries, they will receive support from us in implementing climate-friendly farming processes. For further information, please see our [website](#).

All climate models anticipate an increase in extreme weather conditions that present an elevated risk of crop losses and thus risks for the agricultural value chain as a whole. As a seed producer, we therefore want to develop plants with increased resistance against such extreme weather conditions. That includes short-stature corn that is less susceptible to storms (for more information, please see the Chapter Focus on: Agriculture). We also enable farmers to react better and more quickly to extreme weather conditions with our FieldView™ digital farming platform. For more information, please see Chapter 3.6 Crop Science.

The natural-physical effects of climate change are particularly relevant for our agricultural products. In addition, health risks such as cardiovascular disease will also intensify in many cases due to hotter summer months or more frequent heatwaves. This could create increased demand for cardiovascular or nutritional supplements.

7.4 Greenhouse Gas Emissions

At Bayer, air emissions are primarily caused by the combustion of primary energy sources such as gas and oil. These are used to generate electricity, steam and auxiliary energy (such as for heating and cooling) for the production of our products. Further emissions derive from chemical processes in which coal and other energy sources are required to produce chemical reactions. Emissions are also generated through our vehicle fleet and in the extraction and processing of raw materials.

In reporting greenhouse gas emissions, we take into account the recommendations of the [Greenhouse Gas Protocol](#) (GHG Protocol). Direct emissions from our own power plants, vehicles, waste incineration plants and production facilities (Scope 1) and indirect emissions from the procurement of electricity, steam and cooling energy (Scope 2) are determined at all environmentally relevant sites whose annual consumption exceeds 1.5 terajoules.

In line with the GHG Protocol, we report indirect emissions (Scope 2) according to both the location-based and market-based methods.

Greenhouse gas emissions fell in 2020 compared to 2019.

We address our climate protection activities in our latest [Report to CDP](#) (formerly the Carbon Disclosure Project).

Greenhouse Gas Emissions (Scope 1 and 2)

Million metric tons of CO ₂ equivalents	2019	2020
Scope 1: Direct emissions ¹	2.08	2.01
of which carbon dioxide (CO ₂)	2.01	1.96
of which ozone-depleting substances	0.031	0.012
of which partially fluorinated hydrocarbons (HFCs)	0.020	0.022
of which nitrous oxide (N ₂ O)	0.008	0.008
of which methane (CH ₄)	0.004	0.003
Scope 2: Indirect emissions ² according to the location-based method	1.77	1.75
Scope 2: Indirect emissions ² according to the market-based method ³	1.68	1.57
Total greenhouse gas emissions (Scope 1 and 2) according to the market-based method³	3.76	3.58
of which offset greenhouse gas emissions	-	0.2
Specific greenhouse gas emissions (kg CO ₂ e/€ thousand external sales) according to the market-based method ^{3, 4}	86.38	86.55

2019 figures restated

¹ In line with the GHG Protocol, we also report the direct emissions resulting from the generation of energy for other companies and sold as a site service. In 2020, resulting emissions corresponded to 0.11 million metric tons of CO₂ equivalents.

² Typically, CO₂ accounts for 98% of all energy-related greenhouse gas emissions. When determining indirect emissions, our calculations are therefore limited to these greenhouse gases and we indicate all emissions in CO₂ equivalents.

³ For Bayer, the market-based method of the GHG Protocol most reliably reflects the values for Scope 2 emissions and the success of emissions reduction measures, so we apply emissions volumes calculated using this method when calculating the total and specific greenhouse gas emissions.

⁴ Specific Bayer Group emissions are calculated from the total volume of direct emissions and indirect emissions calculated using the market-based method of the GHG Protocol (Scope 2), divided by the external sales volume.

In 2020, the Bayer Group was involved in European emissions trading with five plants in total. The CO₂ emissions of these plants amounted to almost 313,000 metric tons.

Due to the varying depth of value creation, direct and indirect greenhouse gas emissions (Scope 1 and 2) are unequally distributed among our divisions. Our raw material extraction activities, including treatment and downstream processing, for the manufacture of the crop protection intermediates of Crop Science are especially energy-intensive – this division therefore accounts for the greatest share of our greenhouse gas emissions.

Greenhouse Gas Emissions by Division (Scope 1 and 2)

Million metric tons of CO ₂ equivalents	2020
Scope 1: Direct emissions ¹	2.01
of which at Crop Science	1.65
of which at Pharmaceuticals	0.19
of which at Consumer Health	0.02
of which other ²	0.16
Scope 2: Indirect emissions ³ according to the market-based method ⁴	1.57
of which at Crop Science	1.38
of which at Pharmaceuticals	0.13
of which at Consumer Health	0.06
of which other ²	0.004

¹ In line with the GHG Protocol, we also report the direct emissions resulting from the generation of energy for other companies and sold as a site service.

² These include greenhouse gas emissions from the vehicle fleet and emissions caused by the enabling functions.

³ Typically, CO₂ accounts for 98% of all energy-related greenhouse gas emissions. When determining indirect emissions, our calculations are therefore limited to these greenhouse gases and we indicate all emissions in CO₂ equivalents.

⁴ For Bayer, the market-based method of the GHG Protocol most reliably reflects the values for Scope 2 emissions and the success of emissions reduction measures, so we apply emissions volumes calculated using this method when calculating the total and specific greenhouse gas emissions.

The GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard bindingly regulates the reporting of all indirect emissions from the value chain and separates these emissions into 15 categories. Emissions from eight Scope 3 categories are of material importance to Bayer and together account for our total Scope 3 emissions. We describe these in detail in the [Report to CDP](#).

In accordance with the guidelines of the Science Based Targets initiative (SBTi), the calculation of our reduction target for Scope 3 emissions utilizes only the five relevant categories that make up the biggest portion of our Scope 3 emissions (88%). We also separately report the sum of these Scope 3 emissions in the following table. For more information on initiatives to reduce Scope 3 emissions, please see Chapter 7.2 Climate Strategy.

Greenhouse Gas Emissions in the Value Chain (Scope 3)

Million metric tons of CO ₂ equivalents	2019	2020
Scope 3: Indirect emissions from our upstream and downstream value chain (by materiality) ¹	10.05	8.86
of which indirect emissions from our upstream and downstream value chain to attain the SBT ^{2, 3}	8.87	7.88
Progress in the reduction of Scope 3 emissions ^{4, 5}	-	-11.2%

2019 figures restated

¹ Emissions from eight Scope 3 categories are of material importance to Bayer and together represent our total Scope 3 emissions: (1) purchased goods and services, (2) capital goods, (3) fuel- and energy-related activities, (4) upstream transportation and distribution, (5) waste, (6) business travel, (7) employee commuting and (12) end-of-life treatment of sold products.

² Science Based Target

³ For the calculation of our reduction target for Scope 3 emissions in line with SBTi, 88% of total materially important Scope 3 emissions are considered. The following Scope 3 categories are covered: (1) purchased goods and services, (2) capital goods, (3) fuel- and energy-related activities, (4) upstream transportation and distribution and (6) business travel.

⁴ 2030 target: 12.3% reduction

⁵ All greenhouse gas emissions from air travel in 2020 were offset.

7.5 Energy

Our energy needs have the greatest direct impact on our greenhouse gas emissions. Production accounts for the most significant share of our energy requirement, which depends on the production operations at the sites and the depth of our value chain (see also Chapter 7.4 Greenhouse Gas Emissions).

Energy consumption

When calculating total energy consumption, we differentiate between primary and secondary energy consumption. The main source of primary energy consumed comprises fossil fuels for our own generation of electricity, steam and cooling energy for our own use and to a small extent for sale to other companies. Secondary energy consumption reflects the purchase of electricity, steam and cooling energy at our sites worldwide.

Among the targets we have set within the context of our climate strategy is to cover 100% of purchased electricity needs with renewable energies by 2030. To achieve this objective, we have produced a catalogue of criteria such as physical proximity to the production plant and additionality. For more information, please see Chapter 7.2 Climate Strategy.

In 2020, around 6% of our purchased electricity was sourced from renewable energies. Around 94% of the electricity originated from other sources, such as fossil fuels or nuclear power. In 2020, we concluded supply agreements for electricity from renewable energies in the United States, Mexico, Spain and other countries.

Compared with 2019 (39.2 petajoules), Bayer's total energy consumption fell by 8.6% to 35.9 petajoules in 2020. This decline is primarily due to the COVID-19 pandemic, which has led to reduced production activities at some sites.

Energy Consumption

TJ	2019	2020
Primary energy consumption	21,070	17,836
Natural gas	13,779	10,911
Coal	2,783	566
Liquid fuels	3,235	2,901
of which for vehicle fleet/transport	2,728	2,480
Waste	521	416
Other ¹	753	932
Primary energy consumption for third party companies	- ²	2,111
Secondary energy consumption	18,142	18,022
Electricity ³	12,084	12,166
of which electricity from power grid	11,874	11,426
of which electricity from renewable energies	211	715
Steam	4,791	4,485
of which steam from renewable energies	-	25
Steam from waste heat (process heat)	540	550
Cooling energy	726	691
Secondary energy consumption for third party companies	- ²	131
Total energy consumption	39,212	35,858

2019 figures restated

¹ For example biomass

² Indicator reported for the first time from 2020

³ The proportion of primary energy sources used in generating the electricity consumed depends on the respective electricity mix of our energy suppliers.

The primary and secondary energy consumption is usually dependent on the production volume: the more that is produced, the greater the energy consumption and also the associated greenhouse gas emissions. Energy management systems such as ISO 50001 also help to identify potential energy savings in production processes, as well as when developing new production processes and converting existing ones. This not only conserves valuable energy resources, but also takes into account economic factors associated with long-term savings. In our Report to CDP we also describe projects to save energy that were implemented at various sites.

Energy efficiency

Bayer reports energy efficiency as the ratio of energy used to external sales. Energy efficiency improved compared with 2019.

Energy Efficiency

kWh/€ thousand external sales	2019	2020
Energy efficiency	250	241

2019 figures restated

For more information on our energy efficiency measures, please see Chapter 7.2 Climate Strategy.

8. Environmental Protection and Safety

Among our highest priorities are protecting the environment and ensuring the safety of our employees and the people who live near our sites. We work continuously to reduce the environmental impact of our business activities and develop product solutions that benefit the environment. Bayer's focus is on taking consistent precautions – to ensure safety in day-to-day work, in the operation of production facilities, and on work-related travel and transportation routes.

8.1 Management Approach

Responsibility for steering and monitoring health, safety and environment (HSE) aspects across the Group lies with the enabling function of the same name, which is, in line with the business allocation plan of the Board of Management, assigned to the member of the Board of Management responsible for Crop Science. The Corporate HSE enabling function establishes responsibilities, targets, key performance indicators and framework conditions for the entire Group. These include the [HSE Management and HSE Key Requirements corporate policy](#), which forms an integral part of the global HSE management system. This policy describes the basic approach for monitoring HSE processes at Bayer and defines core HSE requirements that need to be implemented worldwide. Detailed requirements for individual environmental protection and safety aspects are established in more far-reaching corporate regulations.

The continuous review and revision of corporate regulations by the Corporate HSE enabling function, regular mandatory internal audits and external certification processes ensure that the systems at all sites meet the requirements in each case.

HSE management systems are integrated into business processes across the Bayer Group. Operational responsibility for health, safety and environmental protection lies with the individual divisions, which steer HSE via management systems, committees and working groups.

We report all relevant HSE data of the Group including all fully consolidated companies in which we have a share of more than 50%, collect data on occupational injuries at all sites worldwide, and record environmental indicators at 220 environmentally relevant production, research and administration sites, compiling this in the Bayer-wide site information system BaySIS. We consider all sites to be environmentally relevant whose annual energy consumption is greater than 1.5 terajoules.

Our HSE commitment extends beyond the scope of legal requirements. For capital expenditure projects exceeding €10 million, we perform a voluntary ecological assessment. This includes an evaluation of direct and indirect emissions. In the case of acquisitions, we examine compliance with the applicable environmental and occupational safety regulations as well as fundamental employee rights at the production sites in question. Through our HSE management systems we also avoid damage and disruptions to work and production.

HSE management systems

Based on the HSE Management and HSE Key Requirements corporate policy, which was published in April 2018, all environmentally relevant Bayer sites must introduce an HSE

management system by March 2021 that complies with recognized international standards (e.g. ISO 14001, ISO 45001 or ISO 50001).

By the end of 2025, furthermore, 80% of our business activity should have coverage with external certification to the above standards.

Standards and Certifications

% of business activities based on energy consumption of environmentally relevant sites	2019	2020
Certification to external standards		
ISO 14001 certification/EMAS validation	65	56
ISO 45001 certification/OHSAS 18001	43	45
ISO 50001 certification	21	22
Degree of coverage with certification to at least one of the above standards	67	60

HSE audits

Audits are an integral component of our global HSE management system. They help to ensure compliance with applicable regulations and to improve our performance worldwide through the management and mitigation of possible HSE risks. Bayer's global HSE audit program comprises both general HSE audits and process and plant safety audits. The Health, Safety and Environmental Audits corporate directive defines the basic principles and methodology for selection, planning, implementation and post-processing using a risk-based decision-making process. Bayer's audit approach is based on the international standard ISO 19011 "Guidelines for Auditing Management Systems" and provides the framework for carrying out audits.

Through the overarching HSE audit approach, we include all units and apply the same concepts worldwide. When selecting sites for audit, the focus is particularly on production sites, relevant Bayer warehouses, sites with research and development units, relevant seed treatment and processing units and country groups.

The frequency of audits is determined taking into account the risk category (based partly on the size of the site or the type of production activity), the performance evaluation (based partly on past audit results, for example) and risk-mitigating measures (e.g. existing ISO certifications), and ranges from two to five years. Incident-based audits can be carried out in addition to this. The audit criteria comprise all applicable environmental and safety regulations and standards for the area being audited, including Bayer regulations, local HSE management system regulations, legally applicable standards, permit requirements and international standards (e.g. ISO 14001 or ISO 45001). If deficiencies in compliance with legal regulations are identified, additional compliance audits can be planned.

The respective site management, the division and the head of the Corporate HSE enabling function are notified of the audit findings. Supplementary to the global HSE and process and plant safety audits, sites and country organizations carry out their own internal HSE audits or self-inspections according to a specific risk-based approach. Since 2020, all global audit reports, and successively the local audit reports as well, have been stored in a new database.

8.2 Air Emissions

Air emissions are monitored as part of our environmental management system at the sites. These are partly considered in the calculation of greenhouse gas emissions such as

ozone-depleting substances or nitrous oxide (laughing gas). For more information on our greenhouse gas emissions and our energy consumption, please see Chapter 7 Climate Protection.

Emissions of ozone-depleting substances in 2020 fell significantly from 12.3 to 4.3 metric tons. Emissions of volatile organic compounds were halved. Among the reasons for the reduction in both parameters was the connection of storage tanks for solvents to the waste air treatment plant at the Vapi site in India.

Other Direct Air Emissions

1,000 metric tons	2019	2020
ODS ¹	0.0123	0.0043
VOC ²	1.41	0.69
CO (carbon monoxide)	2.07	1.16
NO _x (nitrogen oxides)	4.25	4.16
SO _x (sulfur oxides)	2.43	1.32
Particulates	1.96	2.29

2019 figures restated

¹ Ozone-depleting substances (ODS) according to the Montreal Protocol, in CFC-11 equivalents

² Volatile organic compounds (VOC) excluding methane

8.3 Water and Wastewater

Responsible water usage is a cornerstone of our commitment to sustainable development. Clean water in sufficient quantities is essential for the health of people, animals and plants. That is why it is crucial that industrial water usage will continue not to lead to local problems such as a shortage of water for the people living in the catchment areas of our production sites. In our [Water Position](#), we commit to complying with international, national and local legislation to protect water resources, using them as sparingly as possible and further reducing emissions into water.

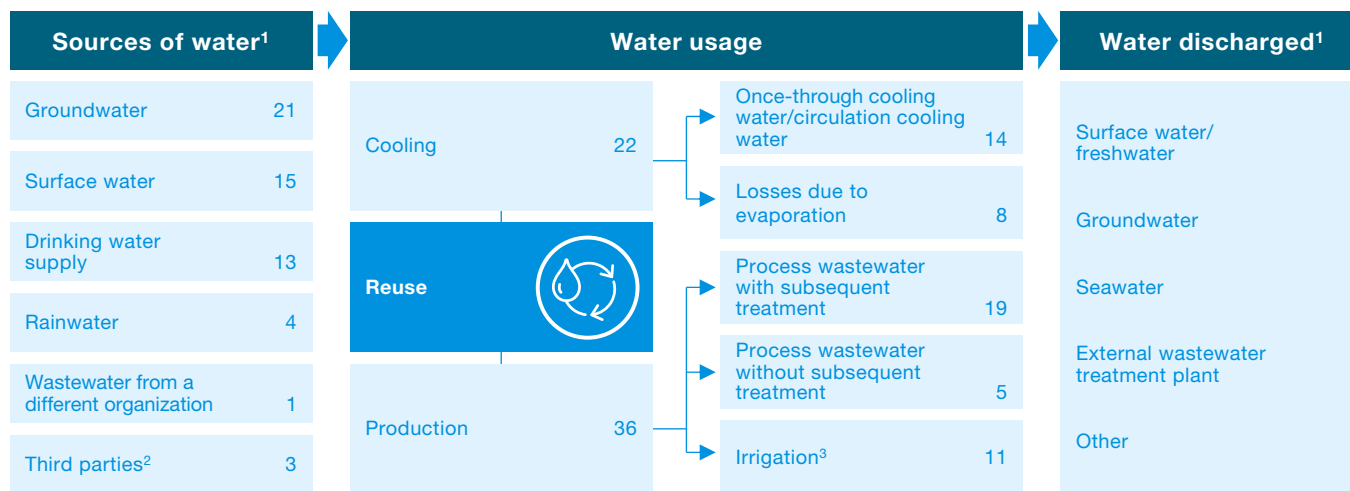
In our water stewardship strategy, we address a variety of factors connected with water, from operational water use and innovative products such as seeds with a reduced water requirement to our commitment in the value chain and cooperation with partners. We support the CEO Water Mandate of the U.N. Global Compact with the goal of working with key stakeholders to develop sustainable strategies for water usage.

We aim to identify potential for improvement particularly at sites located in water-scarce areas or in areas identified as being threatened by water scarcity, and use as little water there as possible. The first step in this process was the analysis of our sites in such areas in 2019, based on the Aqueduct Water Risk Atlas published by the World Resources Institute, to establish whether they have a water management system. This was the case with 95% of these sites. In 2020, we achieved our goal of increasing this to 100% coverage of our sites with a water management system. For more information on water sources in water-scarce areas or in areas identified as being threatened by water scarcity, please see the table “Water Sourced in Water-Scarce Areas or Areas Threatened by Water Scarcity.”

We are currently further developing our water strategy to better address the opportunities and risks associated with water stewardship in the future, especially in view of changing climatic conditions.

In our annual response to the CDP Water Disclosure, we report in detail on our water usage and the company-specific water footprint. This represents a progress report for the CEO Water Mandate. In recent years, including 2020, we have repeatedly been included in the [CDP Water A List](#) (leadership status).

Water Use in the Bayer Group 2020 (million m³)



¹ The differences between volumes of water consumed and water discharged can be explained, for example, by quantities of water used as raw materials in products, unquantified losses due to evaporation, leaks and volumes of condensate generated through the use of steam as a source of energy. Detailed data on water discharged is shown in the table on the right.

² E.g. process water, water contained in raw materials used

³ Mainly agricultural irrigation

Water use

In 2020, total water use in the Bayer Group was 57 million cubic meters (2019: 59 million cubic meters). Some 5.7% of our total water consumption (3 million cubic meters) comes from water sources in water-scarce areas or in areas identified as being threatened by water scarcity (as defined by the World Resources Institute, Aqueduct Water Risk Atlas).

Around 37.8% of all water used by Bayer is cooling water that is only heated in this process and does not come into contact with products. It can be returned to the water cycle without further treatment in line with the relevant official permits.

At our production facilities, we endeavor to use water several times and to recycle it. Water is currently recycled by various means at 49 sites, these being responsible for 44.5% of the total water used. These means include closed cooling cycles, reuse of treated wastewater, including to water fields, and recirculation of steam condensates as process water. The total volume of water recycled comes to more than 380 million cubic meters, meaning that the 57 million cubic meters of water originally deployed is used more than six times on average.

Water Sourced in Water-Scarce Areas or Areas Threatened by Water Scarcity¹

Million m ³	2019	2020
Total water sourced	59	57
of which in water-scarce areas or areas threatened by water scarcity	3	3

¹ As defined by the World Resources Institute, Aqueduct Water Risk Atlas

Wastewater

The total quantity of industrial and mixed wastewater was 25 million cubic meters in 2020, which is 4% less than in 2019.

Volume of Treated Production Wastewater by Discharge Destination

Million m ³	2019	2020
Surface water	15.9	16.0
Groundwater	0.01	0.004
Seawater	0.1	0.1
Other (evaporation, irrigation, seepage)	2.4	2.7
External wastewater treatment plant	4.7	5.8
Total wastewater	26	25
of which in water-scarce areas or areas threatened by water scarcity	0.6	0.8

2019 figures restated

All wastewater is subject to strict monitoring before it is discharged into the various disposal channels. In 2020, 78.8% of all our industrial and mixed wastewater worldwide was purified in wastewater treatment plants (Bayer or third-party facilities). Following careful analysis according to official provisions, the remaining volume was categorized as not environmentally hazardous and returned to the natural water cycle. In 2020, we again applied alternative means of disposing of product-containing wastewater such as incineration, distillation and chemical treatment.

We aim to minimize our emissions into water. Compliance with the relevant wastewater thresholds at our production sites worldwide is monitored by supervisory authorities and external assessors and also reviewed at regular intervals through on-site audits by internal experts.

To further reduce or completely exclude the release of active ingredient traces into the environment, we implement additional wastewater treatment measures at the production sites that are established in a corporate regulation. These measures include a hazard evaluation and HSE risk assessment of the wastewater to determine whether wastewater parameters need to be further reduced. In such cases, internal wastewater thresholds can be derived that offer sufficient risk mitigation but do not represent legally established limits.

Through improved wastewater analytics at our site in Camacari, Brazil, the reported emissions for total organic carbon (TOC) had to be adjusted upward. Owing to an ammonia leak at the Kansas City site in the United States, discharges of nitrogen rose by 12.5%.

Emissions into Water		
1,000 metric tons	2019	2020
Phosphorus	0.51	0.38
Nitrogen	0.42	0.48
TOC ¹	0.98	1.54
Heavy metals	0.0026	0.0026
Inorganic salts	167	151
COD ²	2.95	4.61

¹ Total organic carbon (TOC)

² Chemical oxygen demand; calculated value based on TOC figures (TOC x 3 = COD)

Remediation of soil and groundwater contamination

In line with the HSE Management and HSE Key Requirements corporate policy, Bayer ensures the implementation of measures to prevent the contamination of soil and groundwater. This includes inspecting facilities for leaks, implementing effective secondary retention measures for storage tanks, and maintenance and inspection programs. The measures also include applying suitable leak identification devices for tanks, containers and pipes containing hazardous materials as well as the installation of sealed surfaces with a sufficient retention volume, for example in tank loading and unloading areas.

Bayer also actively performs remediation activities to mitigate environmental damage resulting from non-compliant waste management or accidents in the past. Dedicated processes are established for this purpose that stipulate comprehensive investigation of sites and, where necessary, subsequent remediation activities to clean up the impacted environment. These processes and activities are implemented based on statutory requirements and the latest technological standards and are also designed to prevent possible financial or reputational damage to the company.

To manage contamination, we have established uniform standards in our corporate regulations for the investigation and remediation of such sites. Our specialized teams work systematically together with external experts to support all affected sites in the planning and implementation of remediation processes and measures, measure their progress as well as execute and conclude these cases with a positive effect for people and nature.

In connection with the implementation of environmental protection measures and the mitigation of contamination, provisions are established for expected costs with regard to the remediation of contaminated sites, the recultivation of landfills, the clean-up of environmental pollution at existing production or storage sites and similar measures. This ensures that we are able to implement necessary measures. We report on provisions in the 2020 Annual Report.

8.4 Waste and Recycling

We want to minimize material consumption and disposal volumes through systematic waste management. Waste separation, safe disposal channels and economically expedient recycling processes serve this purpose. In accordance with our corporate regulations, all production sites are obliged to prevent, recycle and reduce waste and to dispose of it safely and in line with good environmental practices. Each of our sites must have an up-to-date waste register that includes for each waste stream the name and description of the waste, its source and volume and sufficient information on its composition, hazard classification and final treatment and disposal.

Production fluctuations, building refurbishment and land remediation work influence waste volumes and recycling paths.

Waste volume generated

Bayer ensures that waste is properly disposed of at its sites. We also carry out regular audits of external disposal facilities for this purpose.

The total quantity of waste generated rose by 6.7% in 2020 compared to 2019. This was mainly attributable to the seed production site in Maria Eugenia Rojas, Argentina, where large amounts of waste composed of plant byproducts were disposed of as nonhazardous waste for agricultural use and composting. The volume of hazardous waste fell by 3.4% compared to 2019 due to the completion of construction and remediation work at the Vapi site in India.

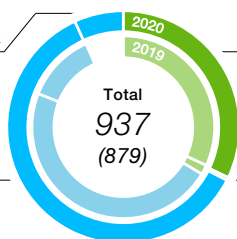
Waste Generated 2020 (2019)

1,000 metric tons

Nonhazardous waste

64 (116)
from construction work

568 (446)
from production



Hazardous waste¹

301 (300)
from production

4 (16)
from construction work

2019 figures restated

¹ Definition of hazardous waste in accordance with the local laws in each instance

The volume of waste disposed of increased by 8.1%. Some 42.9% of this waste was successfully recycled. The proportion of hazardous waste that was recycled was 12.4%.

The volume of hazardous waste disposed of to landfill fell owing to the completion of construction work taking place at the Vapi site in India as part of an infrastructure project.

Waste by Means of Disposal

1,000 metric tons	2019	2020
Total volume of waste disposed of¹	872	943
Volume removed to landfill	123	139
Volume incinerated	268	278
Volume recycled ²	411	405
Other ³	70	121
Hazardous waste disposed of	316	305
Volume removed to landfill	28	16
Volume incinerated/recycled/other ³	288	289

¹ Waste can also be stored at sites as an intermediate step. For this reason, the volume of waste disposed of can differ slightly from the volume of waste generated by Bayer.
² Recycling refers to processes through which waste is reused or treated for reutilization.
³ For example passed on to third parties (e.g. providers/waste disposal companies) for disposal or utilization for energy generation or composting

Disposal, recycling and processing

Legislation prohibits the recycling and processing/treatment of a large proportion of our materials, especially pharmaceuticals and crop protection products. In our divisions, we make use of the opportunities for recycling within the framework of legal regulations. Production-specific and substance-specific recycling is carried out in compliance with the individual requirements of a given production site. Packaging materials are recycled in line with national regulations

as part of the country-specific infrastructure for waste disposal. In many countries with no legal regulation, the industry has set up a return system in collaboration with other providers.

Material-based recycling is important in Crop Science's active ingredient and intermediate manufacture, and is handled individually at the respective production site. Solvents, catalysts and intermediates are processed and returned to the production process. In global process development for active ingredients and intermediates, material recycling is considered an important development criterion.

Processes are in place at Bayer to ensure the safe sell-off of products, including the disposal of obsolete inventories or waste. Returns of obsolete stocks of crop protection products are accepted in individual cases. The crop protection product industry has set up voluntary initiatives in various countries for the proper disposal of obsolete stocks. As part of its activities in the international CropLife association, Crop Science is working with the Food and Agriculture Organization (FAO) of the United Nations and the World Bank to support the proper collection and disposal of obsolete crop protection products in Africa.

In the Pharmaceuticals and Consumer Health divisions, production-specific recycling is carried out in compliance with the individual requirements of a given production site. The disposal of pharmaceutical products is subject to strict safety criteria, so no recycling is possible for the portfolios of the Pharmaceuticals and Consumer Health divisions. Material-based recycling takes place at the Pharmaceuticals site in Bergkamen, Germany, in the form of the recovery of solvents used in production.

8.5 Environmental Incidents

There were three environmental incidents – i.e. incidents that resulted in the release of substances into the environment – in 2020 (2019: three): two at sites in the United States involving valves and a truck accident in Brazil. The truck accident was both an environmental and a transport incident. Factors that determine whether there is a reporting obligation for a particular environmental incident include, in particular, the nature and quantity of the substance, the amount of damage caused and any consequences for nearby residents. In accordance with our internal voluntary commitment, we report any leakage of substances with a high hazard potential from a quantity of 100 kilograms upward. For details of the environmental and transport incidents in 2020, please see Chapter 8.9 Transportation and Storage Safety.

8.6 Occupational Health and Safety

Safeguarding the occupational health and safety of our employees, and of the employees of contractors under the direct supervision of Bayer, involves preventing occupational accidents and occupational illnesses, assessing potential hazards, ensuring comprehensive risk management and creating a healthy working environment.

Occupational injuries and occupational illnesses

The basis of our reporting on occupational injuries is the Recordable Incident Rate (RIR), which covers all occupational injuries to and occupational illnesses of Bayer employees and employees of contractors under the direct supervision of Bayer leading to medical treatment that goes beyond basic first aid. As a result, the RIR covers injuries and occupational illnesses both

with and without lost workdays. In 2020, it fell to 0.32 cases per 200,000 hours worked, corresponding to 383 occupational injuries worldwide (2019: 600). The RIR thus came in below the defined target for 2020 of 0.40. This means that, in statistical terms, one recordable incident occurred for more than every 630,000 hours worked. Recordable injuries with lost workdays constituted 240 of the total of 383 occupational injuries, meaning that the corresponding parameter, the Lost Time Recordable Incident Rate (LTRIR), declined to 0.20 in 2020. The substantial reduction in occupational injuries compared with the previous year was due in part to increased working from home, which was considerably expanded as a protective measure in connection with the COVID-19 pandemic.

Regrettably, two people lost their lives in work-related accidents in 2020. A Bayer employee died in a road accident after a business appointment and another employee had a fatal accident while working in a field on a tractor.

Recordable Occupational Injuries¹

	2019	2020
Number of occupational injuries	600	383
of which Bayer employees	523	329
of which employees of contractors under direct Bayer supervision	77	54
Rate of occupational injuries (RIR ²)	0.46	0.32
Rate of occupational injuries with lost workdays (LTRIR ³)	0.27	0.20
Fatal occupational injuries ⁴	2	2

2019 values restated

¹ The figures include Bayer employees and employees of contractors whose accidents occurred under direct Bayer supervision.

² RIR = Recordable Incident Rate

³ LTRIR = Lost Time Recordable Incident Rate

⁴ Two Bayer employees had fatal accidents. There were no fatal occupational injuries to employees of contractors under direct Bayer supervision either in 2019 or 2020.

Occupational illnesses are also included in the RIR and LTRIR figures, regardless of whether they are listed in national registers of occupational diseases. As lists of occupational diseases are not globally standardized – and in many countries do not exist at all – we document all occupational illnesses, provided they have been diagnosed and recognized by a physician. In 2020, 29 new cases of occupational illnesses were reported throughout the Bayer Group, 12 of them with lost workdays. These were related to the musculoskeletal system and skin reactions, among other disorders, without a clear pattern of risk areas emerging. The number of incidents corresponds to 0.1 occupational illnesses per one million hours worked.

Rate of Recordable Occupational Injuries (RIR) by Region¹

	2019	2020
Europe/Middle East/Africa	0.51	0.40
North America	0.75	0.46
Asia/Pacific	0.18	0.12
Latin America	0.37	0.23
Total	0.46	0.32

¹ The rate also includes employees of contracted outside companies whose injuries occurred on our company premises and under the supervision of Bayer.

Risk assessment and preventive measures

The workplaces of our employees and those of contractors under the direct supervision of Bayer are regularly subjected to a comprehensive health-related risk assessment and hazard analysis by Bayer experts that also includes possible exposure of employees to chemicals. Details of these measures are enshrined in a corporate regulation.

Measures derived from this analysis to protect the health of our employees follow the STOP hierarchy: 1) substitution, 2) technical protective measures, 3) organizational protective measures and 4) personal protective measures. These measures and targeted studies are designed to prevent occupational illnesses.

In addition to the appraisals by experts, both our employees and those of contracted companies are urged to immediately report work-related hazards or dangerous situations to their supervisors or via the compliance hotline. Reports via the hotline can also be made anonymously if permitted by respective national law.

On top of the country-specific regulations on mandatory examinations, we offer our employees regular medical examinations – in some cases on a mandatory basis – in all countries in which this is legally permissible. The focus here is on hazard-based, workplace-related examinations.

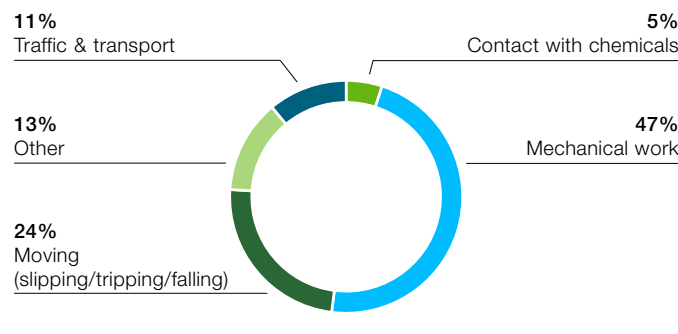
Within the context of our occupational safety management, Bayer employees and those of contracted companies receive extensive training in the prevention of accidents and safety incidents. The measures range from safety briefings to special training courses on the safe handling of chemical substances. Overall, more than 24,600 employees completed safety training measures conveying detailed contents in 2020.

In 2020, as in previous years, the number of injuries involving contact with chemicals was small (5%) in relation to the total number of occupational injuries.

A significant proportion of the accidents and injuries suffered by our employees have behavior-linked causes. For example, accidents can occur when employees use smartphones while walking. Alongside technical and organizational

measures, therefore, promoting safety-conscious behavior is an important starting point for preventing accidents and injuries. The measures we take and initiatives we introduce take into account globally recognized occupational health and safety principles.

Notification of Accidents and Injuries 2020



After the global rollout of our Behavioral Safety initiative to promote safety-conscious behavior, its contents were enshrined in a corporate regulation in 2020. The initiative encompasses training programs, information and organizational procedures that enhance employees' awareness of their own safety-relevant behavior and that of other employees. Behavioral improvements have been achieved in areas in which the Behavioral Safety Program has already been implemented, so that the Recordable Incident Rate is expected to decline across the Bayer Group in the medium term.

Occupational health and safety during the COVID-19 pandemic

In 2020, occupational health and safety at Bayer was heavily impacted by the progression and development of the COVID-19 pandemic. As the health and safety of our

employees are our top priority, the Group Crisis Staff unit headed up by the Chairman of the Board of Management implemented the existing pandemic plans at an early stage. This enabled the reduction of COVID-19-related risks for employees at the workplace. We had registered only a very low infection rate by the end of 2020.

The globally implemented protection concepts and measures take into account the varying occupational tasks at the respective sites. We were able to maintain or quickly restart production at the sites and thus ensure the supply of products to our patients and customers. The following measures played a role here:

- // Working from home wherever possible
- // "STOP entry": no access for employees showing symptoms of illness, safeguarded by a self-check questionnaire and body temperature checks at the site gates and entrances
- // Two-meter distancing rule; in areas in which it is not possible to observe this distance, plastic dividers were installed and the use of facemasks during working hours was mandated
- // Hygiene rules for hand-washing and disinfection, and the general use of a facemask; we provided our employees with cloth masks at an early stage in all countries in which that was possible according to national law

All rules, instructions, FAQs and further information for employees are being continuously updated and made available on a central intranet platform for the duration of the pandemic. Our employees are notified at all times of the current status of applicable local measures.

8.7 Biosafety

In accordance with the guidelines of the World Health Organization (WHO) on biorisk management principles, we consider biosafety to comprise the principles, technologies and processes implemented to prevent unintended exposure to biological materials that could pose a risk to people or the environment. Misuse or theft of biological materials is also prevented by corresponding measures.

Biological material must be handled with suitable care to ensure that employees, residents and the environment are protected. This includes microorganisms, invertebrates, vertebrates, plants, cell cultures, genetically modified organisms, toxins and allergens. An assessment of the biosafety risk is necessary before biological materials can be used, particularly in R&D and production. These analyses are conducted by the employee responsible for biosafety in each case and verified together with an expert. All employees tasked with biosafety must undergo regular training.

Processes for carrying out assessments and measures are established in a corporate regulation on biosafety that is oriented to the specifications of the WHO. Wherever local laws and regulations are more stringent than the standards laid out by the corporate regulation, the more stringent variant takes precedence.

A group of biosafety experts from all divisions and regions cooperates within the Bayer Biosafety Panel. Under the auspices of the Corporate HSE enabling function, the panel is responsible for developing, reviewing and implementing Bayer's biosafety rules and regulations throughout the Group. It also advises and supports the Biosafety Community with which it maintains regular communication to ensure a uniform and high standard of biosafety throughout the company.

The implementation of legal and Bayer Group guidelines on biosafety is also overseen by the HSE audit program.

8.8 Plant Safety

We aim to design and operate our processes and production facilities in such a way that they do not pose any inappropriate risks to our employees, the environment or neighboring communities. This is conditional upon an effective system to ensure plant safety being in place that enables operational risks to be identified, remedied and reduced and their effects mitigated. We are continuously working to further develop the safety culture, the expertise of employees and the globally applicable corporate regulations on process and plant safety, which also cover topics such as machine and laboratory safety and prescribe uniform processes and standards for evaluating risks and establishing suitable safety measures. In this way we ensure that a uniform safety level is in place at the approximately 40 Bayer sites at which volumes of hazardous substances significant for plant safety are stored or processed, while satisfying at least the local legal requirements. We completed the integration of the sites of the acquired agricultural business into Bayer's plant safety processes in the first quarter of 2020 and introduced the corporate regulations on process and plant safety. Their implementation at the sites will involve appropriate training for employees.

Responsibilities and verification

To ensure a high safety level at our facilities, we have defined clear responsibilities in our company that are assumed internally by various organizational units. Responsibility for the safe operation of production facilities lies with plant management. Experts from the Engineering & Technology enabling function are responsible together with the plant

operators for conducting risk analysis and drawing up safety concepts. Using systematic analytical methods, the process risks of our facilities are identified in interdisciplinary teams supervised by these experts. On this basis, the team develops robust protective concepts that take into account health, safety and environmental aspects. Everyone involved in this process completes a Group-wide plant safety training program. In addition, the safety experts must undergo a globally valid internal training and certification program that qualifies them to carry out risk analyses in the teams. The certification program ensures compliance with globally uniform quality standards in the development of safety concepts at our production facilities.

Ultimately, the Corporate HSE enabling function performs the necessary governance for process and plant safety in the Bayer Group. This function further develops the Group's safety management system and establishes the internal safety requirements, verifying their observance through special process and plant safety audits.

To maintain the high safety level of our facilities, these safety concepts are reviewed every five years. Technical modifications are subject to a stringent change management process. Furthermore, maintenance and inspection programs are established for the safety facilities to ensure the necessary availability and functionality in case of need.

Plant safety is an integral component at the planning stages of capital expenditure projects. We carry out risk analyses during the various phases of a capital expenditure project. At very early stages in the development of new production processes, the applicability of the principles of inherently safer design is examined and the feasibility of a sound safety concept established. Finally, before a new production facility

is brought on stream, our safety experts verify all defined safety measures and confirm their proper implementation through plant and equipment inspections.

Further development of plant safety

To maintain and strengthen safety awareness, the globally binding training program TOPPS (Top Performance in Process and Plant Safety) is continuously updated and improved. Participation is compulsory for all Bayer employees who are able to influence process and plant safety at production and auxiliary facilities and is documented in the training system. TOPPS training documentation both for face-to-face training and web-based training is available in 15 languages.

We are further developing plant safety, both within our company and beyond this worldwide in the form of standards, in internal global and regional networks of experts and through our involvement in associations such as the European Process Safety Centre (EPSC), the Center for Chemical Process Safety (CCPS), Dechema ProcessNet and the German Chemical Industry Association (VCI).

Since 2019, we have used the globally standardized key performance indicator (KPI) Process Safety Incident Rate (PSI-R) as an early indicator for plant safety incidents. This is integrated into Group-wide safety reporting. Reporting of this indicator is based on the requirements of the International Council of Chemical Associations (ICCA). Process safety incidents (PSIs) refer to the unwanted leakage of chemical substances or energy in amounts above defined thresholds from their primary containment, such as pipelines, pumps, tanks or drums. The PSI Rate indicates the

number of process safety incidents per 200,000 hours worked. In 2020, the PSI-R was 0.08 (2019: 0.10). A total of 92 plant safety incidents occurred in 2020 (Process Safety Incident Count, PSI-C).

In addition, we are also indicating the Process Safety Incident Severity Rate (PSI-SR) for the first time in 2020. We report this according to the grading system of the International Council of Chemical Associations (ICCA).

Process Safety Incidents¹

	2019	2020
Process Safety Incident Count (PSI-C) ¹	125	92
Process Safety Incident Rate (PSI-R) ^{1,2}	0.10	0.08
Process Safety Incident Severity Rate (PSI-SR) ^{1,3}	– ⁴	0.21

¹ According to ICCA (International Council of Chemical Associations)

² Number of PSI incidents per 200,000 hours worked

³ Degree of severity for all PSI incidents per 200,000 hours worked

⁴ Indicator reported for the first time from 2020

To prevent substance and energy releases in the future, the causes of PSIs are analyzed and relevant findings communicated to potentially affected sites throughout the Bayer Group. The reporting thresholds are intentionally set at such a low level that even material and energy leaks that have no impact on employees, the local community or the environment are systematically recorded and reported. We pursue this preventive approach so that weaknesses can be identified and corrected before a more serious incident can occur.

8.9 Transportation and Storage Safety

Logistics at Bayer comprises not just the transportation and warehousing of goods, but also the steering and monitoring of flows of goods and logistics data for the Bayer Group.

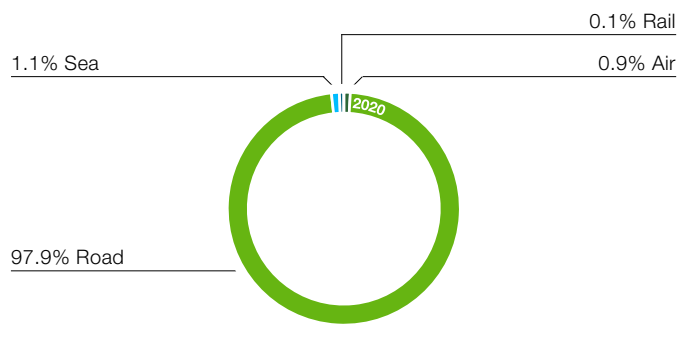
Transportation and storage safety is part of the Bayer HSE management system and is implemented by a network of experts and users with practical experience who cooperate across the Group.

In this case, safety means having procedures in place that ensure that materials are handled, transported and stored according to the relevant regulations and their respective hazard potential and that suitable logistics and warehouse suppliers are selected. Details are specified in the Transportation Safety, Warehousing and Health, Safety and Environment Audits corporate regulations. The underlying standards comprise not just internal Bayer guidelines, but also the rules of the international crop protection association CropLife International and the European Guidelines on Good Distribution Practice of Medicinal Products for Human Use. Bayer's corporate directive on storage safety (warehousing) applies equally to internal warehouses and external warehouse sites and facilities.

Transportation safety plays a key role both in the transportation of our products on public routes and in loading, unloading, classification, labeling and packaging, particularly of hazardous goods. We use both internal capacities and external logistics partners for storage and transport services. Our Procurement unit selects logistics partners according to strict safety, environmental and quality criteria, as described in the Safety and Quality Assessment System (SQAS) of the European Chemical Industry Council (CEFIC).

The implementation of our requirements ensures that materials are handled and transported in line with applicable regulations and the potential hazard they pose. On top of the legally required training courses for our employees, we offer specific electronic training programs to convey specialist knowledge.

Means of Transport



Around 5.3 million consignments were transported in 2020 overall. Despite our extensive safety precautions and training activities, transport incidents nonetheless occur. They are defined as accidents causing personal injury or significant damage to property, environmental impact resulting from the release of substances, or leakage of hazardous goods. Such accidents are recorded in detail and assessed on the basis of defined criteria.

All 13 transport incidents in 2020 (2019: 28) constituted road transport accidents. One of the transport incidents was also an environmental incident.

Transport and Environmental Incidents 2020

	Transport	Environment	Personal injury
Crop Science, St. Louis, United States, January 15 Icy conditions caused a truck to slide off the road and roll over. The spilled seed was collected and properly disposed of.	X	-	-
Crop Science, St. Louis, United States, January 23 The passenger side trailer tires of a truck slid into a ditch, thus causing the truck to tip over. The load did not escape.	X	-	-
Crop Science, St. Louis, United States, January 31 A rollover accident involving a truck caused load leakage. This was disposed of.	X	-	-
Crop Science, St. Louis, United States, February 5 A truck rolled over due to high speed when entering the highway. The trailer was destroyed, spilling the entire load of seed, which was then properly disposed of. The driver was injured.	X	-	X
Crop Science, Belford Roxo, Brazil, February 5 A truck carrying Bayer product collided with a truck transporting fuel that had lost control. A fire ensued and destroyed both trucks including the loads. Both drivers remained uninjured.	X	X	-
Crop Science, St. Louis, United States, February 25 A truck slid off the road and rolled over in a ditch. The trailer and load were completely damaged and disposed of.	X	-	-
Crop Science, Soda Springs, United States, September 28 During a pumping procedure, a defective automatic block valve led to the phosphorus in the phospy mud being exposed to the atmosphere, thus causing it to ignite.	-	X	-
Crop Science, Luling, United States, October 17 Due to a malfunction of the lever control valve of a pipeline scrubber tank, aqueous sodium hydroxide from the second safety container	-	X	-

Transport and Environmental Incidents 2020

	Transport	Environment	Personal injury
leaked out into the ditch. The product was properly collected and disposed of by an environmental service provider.			
Crop Science, Barranquilla, Colombia, October 17 A truck rolled over in a curve. The driver was injured in the process. The ISO container in the trailer was not damaged. The raw material was able to be pumped into another container, under close supervision of Bayer personnel.	X	-	X
Crop Science, Constantine, United States, October 26 A rollover accident led to a loss of seed bags from a truck. These were able to be properly disposed of.	X	-	-
Crop Science, Sinesti, Romania, October 27 A truck transporting seed had to swerve to avoid a frontal car crash, causing it to overturn. The truck driver was injured.	X	-	X
Crop Science, Matthews, United States, November 25 A car pulled out in front of a truck loaded with seeds. The two vehicles collided, causing the death of two car occupants.	X	-	X
Crop Science, Flora, United States, December 15 A truck rear-ended a vehicle on the highway due to unforeseeable, traffic-related reduced visibility.	X	-	-
Crop Science, Frankfurt, Germany, December 15 A rear-end collision occurred between two trucks, damaging containers with liquid hazardous materials. The drivers were able to collect the leaking product. It was then properly disposed of by the fire department.	X	-	-
Crop Science, Storm Lake, United States, December 23 Weather-related rear-end collision involving two trucks	X	-	-

Utilizing digital technologies, we work continually to develop logistics strategies that take account of safety, environmental and cost aspects. Areas of environmental focus include the reduction of CO₂ emissions, for example by minimizing air transport or using logistics strategies that include rail-ways and waterways.

8.10 Emergency and Crisis Management

We ensure safe working conditions and an environment where our employees can work safely and without fear and undertake international business travel without risk. In emergency and crisis situations, ensuring the safety of our employees, facilities and sites is our top priority.

Through corporate regulations on emergency planning, emergency response, safety and crisis management, as well as pandemic planning, Bayer has taken action at the global and local levels to prepare the organization for extraordinary events (e.g. major damage events or crimes), and assess and process them according to uniform criteria. Subsequently, improvement potential is determined if necessary and integrated into existing concepts. Extraordinary events are registered in the Bayer Emergency Response System according to a standard Group-wide procedure and reported to the Global Security Operation Center, which initiates the further steps such as the effective steering of information. This enables us to identify risks facing the company at an early stage and introduce mitigating steps if necessary or provide assistance once incidents have already materialized.

Processing of such incidents is primarily the responsibility of the local safety and crisis organization or the local emergency response team. For this purpose, organizational precautions with defined responsibilities and procedures have been implemented at the sites and in the countries. The responsible persons have been correspondingly trained. Depending on how the situation develops, we involve business partners and the local community around the sites, such as city authorities or neighboring companies. Depending on the extent of damage, the Group Crisis Staff unit as an overarching body assumes the further coordination and steering of crisis management and the restoration of operations.

For example, the Group Crisis Staff unit headed up by the Chairman of the Board of Management was activated in connection with the COVID-19 pandemic. It defines the strategic direction of crisis management and is supported by specialized task forces. In addition, the local crisis staff units convened in the country organizations according to the crisis reaction plans and took the necessary steps in accordance with the global stipulations and local laws. Our highest priorities are the protection and safety of our employees and the provision of our patients and customers with our products.

Crisis management is supported by the established Business Continuity Management System, which is based on the ISO 22301 standard. Business continuity plans contain predefined reaction options for the loss of personnel or downtime of buildings, machinery, IT systems or suppliers. The plans cover various emergency scenarios, such as a longer-term regional blackout or climate-change-related impacts on production sites. The management system comprises suitable IT measures such as ensuring service performance or rapid restoration following a disruptive event. The plans are regularly updated and communicated through training measures. By activating business continuity plans, the resilience of our business activities was ensured during the COVID-19 pandemic.

As part of its Enterprise Risk Management, for example, Bayer also regularly analyzes safety risks and implements suitable identification, prevention and processing measures, including employee training and information measures pertaining to cyber security, for example. Safety and crisis simulation exercises are also regularly conducted at site and Group levels. The number of employees and partners involved depends on the type of exercise. We test the restoration of IT systems and data for one of our global data centers each year at a different site together with our IT service providers.

9. Foundation and Charity Activities

Bayer assumes responsibility worldwide for social needs in keeping with our corporate purpose “Science for a better life” and our vision “Health for all, hunger for none.” Our engagement focuses on people who are actively involved in the fields of education, science and health and committed to improving living conditions through social innovation. Our three company foundations and our corporate donations play an important role here.

9.1 Management Approach

Bayer’s social engagement comprises extensive donation activities and the local granting of financial and material donations – in part through our company foundations – for charitable causes. We comply with the applicable laws and codices in these activities. We also observe the “Guidelines for medicine donations” of the World Health Organization (WHO).

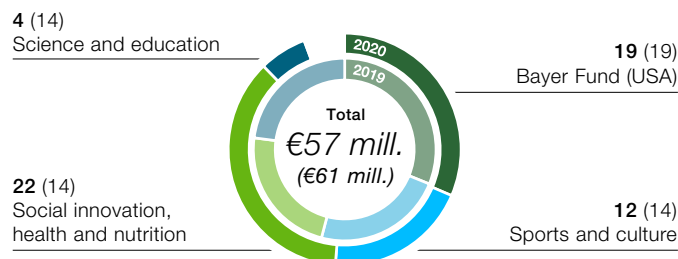
Group-wide donation allocation and management policies ensure that donations, grants and foundation funds are deployed in a targeted and appropriate way, correspond with our strategic alignment and are based on Bayer’s core competencies. The Board of Management is directly involved in major donation decisions.

Our funding priorities included the areas of science and education, social innovation in health and nutrition, combating the COVID-19 pandemic, and projects in the communities near our sites. Another funding priority was sports and culture in Germany. In 2020, Bayer and the Bayer Fund provided around €57 million (2019: €61 million) for charitable projects and activities worldwide. In addition, we donated materials and products worth more than €100 million in 2020.

Funding for Foundation and Charity Activities

2020 (2019)

€ million



- Recreational, disabled and competitive sports, cultural events, support for young artists
- Health education and prevention, social health, access to medical care, sustainable development and smallholder farmer projects, disaster aid, employee volunteering and community projects, Grants4Impact & Aspirin Social Innovation
- School projects, Baylab school laboratories, talent promotion, scholarships, promotion of leading-edge research, scientific awards, promotion of academies, symposia, conferences
- Bayer Fund (USA): community projects, food and nutrition, education, disaster aid

9.2 Foundation Activities at Bayer

Most of our activities are combined within three company-linked foundations that operate worldwide:

- // Bayer Science & Education Foundation (focused on leading-edge research, scientific education and talent promotion)
- // Bayer Cares Foundation (focused on social innovation in health, agriculture and nutrition)
- // Bayer Fund (United States) (focused on community projects, education, nutrition and disaster aid)

The yearly alignment of all programs is coordinated by a Board of Trustees staffed with members from inside and outside the company. In general, committees composed of independent experts decide on the awarding of research prizes and scholarships. A newly founded committee called the Science Council was established for the Bayer Science & Education Foundation in 2020 and is composed of five internationally renowned scientists.

Within the scope of our foundation activities, we look to build effective partnerships and work together with nongovernmental organizations, patient groups, other foundations, scientific institutions, educational partners and networks of experts around the world to implement many of our programs. For further information on our commitment, please see the [2020 Bayer Foundation Report](#).

9.3 Funding Priorities

In the funding of projects, we focus particularly on social innovation, improving living conditions in the communities surrounding our sites, and the areas of science and education. Furthermore, in 2020, combating the COVID-19 pandemic came into the focus of our corporate funding programs.

COVID-19

At Bayer, too, 2020 was dominated by the COVID-19 pandemic. Corporate projects and donations as well as our foundations' activities all reflect our multifaceted approach to combating the pandemic and promoting social aid projects. To this end, we established five focal points that are particularly aimed at providing support for patients and nursing and medical personnel: the provision of products and the use of our facilities and production sites, the enhancement of our employees' competencies and the allocation of financial resources as well as the close cooperation with our partners and within our networks.

At the international level, we distributed two million products from our self-care portfolio as well as several thousand units of prescription medication to NGOs and disaster management teams all over the world. We transformed two of

Bayer's production sites at short notice into facilities able to manufacture more than 150,000 liters of hand sanitizer. This was distributed to medical facilities and other public institutions free of charge. Furthermore, we converted a research laboratory in Berlin at an early stage into a COVID-19 test laboratory to allow for the testing of particularly vulnerable personnel groups such as caregivers from the medical sector or police and firefighters. Around 100,000 tests had been conducted in our test laboratory by the end of 2020.

Furthermore, we supplied over 600,000 items of protective equipment, executed more than six information campaigns aimed at particularly vulnerable segments of society, actively provided psychological support for medical personnel, supplied more than 20 clinical trials with products and joined various research consortia.

In addition, the Bayer Cares Foundation provided around €410,000 as immediate relief for combating the COVID-19 pandemic in sub-Saharan Africa. This aid was used, among other things, to install a mobile messaging service in Mali in cooperation with the London School of Hygiene and Tropical Medicine to provide the population with information about the virus and appropriate hygiene measures. Moreover, support was provided for implementing an operational plan for responding to the crisis on behalf of the Kenyan nongovernmental organization Access Afya, which operates a network of health stations and pharmacies in Nairobi's poorer districts.

In total, we have provided over €29 million in product, material and monetary donations in more than 60 countries to fight the COVID-19 pandemic.

Social innovation

Beyond our activities in connection with the COVID-19 pandemic, we also continued to provide aid through the Social Innovation [Ecosystem Fund](#). The endowment from this ecosystem fund established by the Bayer Cares Foundation in 2019 is used to support technological and social entrepreneurial solutions in health care and agriculture. The focus thereby is on promoting projects that empower sub-Saharan African smallholder farmers to lift themselves and their families out of poverty with their small farms through improved access to medical care. One emphasis is on supporting women.

As part of this fund, the Bayer Cares Foundation supported five major, primarily public service-oriented companies and nongovernmental organizations in the focus areas in 2020. These are working on expanding innovative nutrition and health programs in Senegal, Mali and Uganda and include, for example, the nongovernmental organization Living Goods, the goal of which is to save lives in local communities with the help of health workers, who are supported with digital tools. Living Goods works with governments and partners and uses smart mobile technologies to implement innovative and at the same time cost-effective approaches that have a significant impact on health care. The nongovernmental organization PATH receives money from the fund that is used to assist 50,000 households in southern Senegal in combating malaria. These households comprise around 250,000 people.

Neighboring communities

As part of the international volunteering program, the U.S.-based Bayer Fund supports projects by employees who want to help improve living conditions near our sites. Through programs established by our Bayer Science & Education Foundation, we also promote scientific learning at schools in the communities close to our sites around the world.

Science and education

We regard pioneering achievements in science and society as a basic condition for progress and success. Promoting leading-edge research and supporting education and talent are therefore central matters for the Bayer Science & Education Foundation. In this way, we want to attract a flow of new employees over the long term and promote acceptance of technology within society as a whole.

With the Bayer Science & Education Foundation's Otto Bayer Award, we honor innovations in life sciences that are of great importance for scientific progress and could potentially contribute to the development of innovative products or new technologies in medicine and agriculture. In 2020, one of the leading scientists in the field of microbiome research was awarded our renowned research prize. Furthermore, our Early Excellence in Science Award honors young

scientists who have achieved outstanding research results already at the beginning of their career. A total of four prizes were awarded in 2020 for outstanding research achievements in the fields of electron microscopy, organic chemical synthesis, Alzheimer's research and machine learning approaches for the preparation of biomedical data. In partnership with the Alexander von Humboldt Foundation, we support doctoral students in a postdoctoral program. The focus of this program in the coming years will be on promoting talented young scientists from Africa.

Bayer has created various programs to support young scientists at the earliest possible stage. Through the Bayer Fellowship Program, we enable students and apprentices from scientific and medical disciplines to participate in training and research projects in Germany and abroad. We were unable to carry out this international exchange program in 2020 due to the COVID-19 pandemic. We engage young school students with the Science@School program of the Bayer Science & Education Foundation, which supports teachers in designing curricula in the scientific disciplines. The goal is to awaken interest in the subjects of mathematics, information technology, science and technology through innovative projects and unique insights. In 2020, 18 projects in these disciplines received funding through the Science@School program.

Independent Auditor's Report on a Limited Assurance Engagement Concerning Sustainability Information

To Bayer Aktiengesellschaft, Leverkusen, Germany

Engagement

As requested, we have performed a limited assurance engagement on the information contained in the Sustainability Report 2020 of Bayer Aktiengesellschaft, Leverkusen, Germany, for the period from January 1 to December 31, 2020 (hereafter referred to as "Sustainability Report").

Our engagement does not include links to the Annual Report and web pages of the Group, interviews and personal statements.

Responsibilities of the Executive Directors

The executive directors of Bayer Aktiengesellschaft are responsible for the preparation of the Sustainability Report in accordance with the principles stated in the Sustainability Reporting Standards of the Global Reporting Initiative provided in the "Core" option (hereafter referred to as "GRI Standards").

These responsibilities of the executive directors of the Company include the selection and application of appropriate methods for sustainability reporting and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a Sustainability Report that is free from material misstatement, whether due to fraud or error.

The accuracy and completeness of environmental data in the Sustainability Report is subject to inherent boundaries, which result from the nature and type of data collection, data aggregation and respective necessary assumptions.

Responsibilities of the Independent Practitioner

Our responsibility is to express a conclusion on the information of the Sustainability Report stated above based on our work performed within our limited assurance engagement.

We are independent of Bayer Aktiengesellschaft in accordance with the requirements of German commercial and professional law, and we have fulfilled our other professional responsibilities in accordance with these requirements.

Our audit firm applies the German national legal requirements and the German professional pronouncements on quality control, in particular the Professional Charter for German Public Auditors and German Sworn Auditors (Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer) as well as the Quality Assurance Standard: Quality Assurance Requirements in Audit Practices (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW), which comply with the International Standard on Quality Control 1 (ISQC 1) issued by the International Auditing and Assurance Standards Board (IAASB).

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 (Revised)), issued by the IAASB. This standard requires that we plan and perform the assurance and engagement so that we can conclude with limited assurance that no matters have come to our attention to cause us to believe that the information contained in the Sustainability Report of Bayer Aktiengesellschaft for the period from January 1 to December 31, 2020 has not been prepared, in all material respects, in accordance with the GRI Standards. The procedures performed in a limited assurance engagement are less in extent than for a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained, had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner's professional judgment.

Within the scope of our limited assurance engagement, which we performed between October 2020 and February 2021, we notably performed the following procedures and activities:

- // Gaining an understanding of the structure of the sustainability organization and of the stakeholder engagement
- // A remote site audit for Bergkamen, Berlin, Dormagen, Frankfurt, Knapsack, Leverkusen, Grenzach and Wuppertal (all Germany), Antwerp (Belgium), Muttenz (Switzerland), Vapi (India) as well as Camacari, Itai, Sao Jose dos Campos and Uberlandia (all Brazil), Zarate (Argentina), Orizaba (Mexico) and Berkeley, Constantine, Farmer City, Grinnell, Hollandale, Illiopolis, Kansas City, Kearney, Kunia, Luling, Muscatine, Rock Springs, Soda Springs, St. Louis and Waco (all USA) as part of an investigation into the processes for collecting, analyzing and aggregating selected data
- // Inquiries of relevant personnel involved in the preparation of the Sustainability Report about the preparation process and about the internal control relating to this process
- // Identification of potential risks of material misstatements concerning the information contained in the Sustainability Report
- // Analytical evaluation of the information contained in the Sustainability Report
- // Comparison of disclosures with corresponding data in the consolidated financial statements, the annual financial statements and the combined management report
- // Assessment of the presentation of the information

Practitioner's Conclusion

Based on the work performed and the evidence obtained, nothing has come to our attention that causes us to believe that the information contained in the Sustainability Report 2020 of Bayer Aktiengesellschaft for the period from January 1 to December 31, 2020 has not been prepared, in all material respects, in accordance with the GRI Standards provided in the "Core" option.

Our conclusion does not include links to web pages of the Group, interviews and personal statements.

Purpose of the Assurance Report

We issue this report as stipulated in the engagement letter agreed with Bayer Aktiengesellschaft. The limited assurance engagement has been performed for the purposes of Bayer Aktiengesellschaft and the report is solely intended to inform Bayer Aktiengesellschaft about the result of the assurance engagement.

Liability

This report is not intended to be used by third parties as a basis for making (financial) decisions. We are liable solely to Bayer Aktiengesellschaft, and our liability is also governed by the engagement letter dated October 14, 2020, agreed with Bayer Aktiengesellschaft as well as the "General Engagement Terms for Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)" promulgated by the Institut der Wirtschaftsprüfer (IDW) in the version dated January 1, 2017. We assume no responsibility with regard to any third parties.

Munich/Germany, February 23, 2021

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Beine
German Public Auditor

Dingel
Director

GRI Content Index with the 10 Principles of the U.N. Global Compact

For fiscal 2020, we are again applying the GRI Standards. This report has been prepared in accordance with the GRI Standards: Core option. If there is insufficient information available on a GRI disclosure, we have explained this. The GRI Content Index additionally includes the corresponding UNGC principles.



GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 101: Foundation 2016		
	GRI 102: General Disclosures 2016		
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6	GRI 102-8: Information on employees and other workers	56/57, 61	
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	GRI 102-15: Key impacts, risks, and opportunities	5-10, 12, 19/20	

GRI Content Index

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	GRI 102-20: Executive-level responsibility for economic, environmental, and social topics	8, 12, 15/16, 19/20, 65, 70	
	GRI 102-21: Consulting stakeholders on economic, environmental, and social topics	8, 20; AR 16 , 19, www.bayer.com/asm	
	GRI 102-22: Composition of the highest governance body and its committees	63; AR 15 , 117/118, 261-263	
	GRI 102-23: Chair of the highest governing body	14; AR 13	
	GRI 102-24: Nominating and selecting the highest governance body	AR 15 , 18, 117	
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	GRI 102-26: Role of highest governance body in setting purpose, values, and strategies	15, 65, AR 14–16	
	GRI 102-27: Collective knowledge of highest governance body	AR 13 , 16, 117/118	
	GRI 102-28: Evaluating the highest governance body's performance	AR 13/14 , 118	
	GRI 102-29: Identifying and managing economic, environmental, and social impacts	15/16, 19/20, 65	
	GRI 102-30: Effectiveness of the risk management processes	14, 19	
	GRI 102-31: Review of economic, environmental, and social topics	14, 16, 65; AR 13–16	
	GRI 102-32: Highest governance body's role in sustainability reporting	20; AR 17 , 25	
	GRI 102-33: Communicating critical concerns	8, 14, 20; AR 13/14 , 16, 19, www.bayer.com/asm	
	GRI 102-34: Nature and total number of critical concerns	AR 13–16 , 19, www.bayer.com/asm	
	GRI 102-35: Remuneration policy	8–10, 15/16, 20; AR 125 , 128, 131, 135, 145/146	
	GRI 102-36: Process for determining remuneration	AR 14 , 18, 121–123	
	GRI 102-37: Stakeholders' involvement in remuneration	AR 121	
	GRI 102-38: Annual total compensation ratio	AR 144/145	
	GRI 102-39: Percentage increase in annual total compensation ratio	AR 144/145	
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3	GRI 102-41: Collective bargaining agreements	64	
	GRI 102-42: Identifying and selecting stakeholders	21	

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
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	GRI 102-46: Defining report content and topic boundaries	4, 20/21	
	GRI 102-47: List of material topics	21, 88-94	
	GRI 102-48: Restatements of information	4	
	GRI 102-49: Changes in reporting	None	
	GRI 102-50: Reporting period	4	
	GRI 102-51: Date of most recent report	2020-02-27	
	GRI 102-52: Reporting cycle	Annually	
	GRI 102-53: Contact point for questions regarding the report	Masthead	
	GRI 102-54: Claims of reporting in accordance with the GRI Standards	4, 86	
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	Economic		
	GRI 201: Economic Performance 2016		
7	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	13, 59, 65-67	
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7, 8, 9	GRI 201-2: Financial implications and other risks and opportunities due to climate change	7/8, 10, 65-67; www.bayer.com/tcfd www.bayer.com/CDP-Climate	
	GRI 201-3: Defined benefit plan obligations and other retirement plans	59; AR 209–217	
	GRI 202: Market Presence 2016		
6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	58, 62	
6	GRI 202-1: Ratios of standard entry level wage by gender compared to local minimum wage	58	We do not report on the margin between standard entry salary according to gender and local minimum wage because this data is not available to us. Nor do we plan to collect it. We compensate employees on both permanent and temporary employment contracts in excess of the statutory minimum wage in the respective countries, paying a living wage regardless of gender.
6	GRI 202-2: Proportion of senior management hired from the local community	63	
	GRI 203: Indirect Economic Impacts 2016		

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
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	GRI 203-2: Significant indirect economic impact	13	
	GRI 204: Procurement Practices 2016		
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	47	
	GRI 204-1: Proportion of spending on local suppliers	47	
	GRI 205: Anti-corruption 2016		
10	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16-18	
10	GRI 205-1: Operations assessed for risks related to corruption	16	Complete coverage is crucial for compliance/anti-corruption in the first instance. Areas at risk are monitored more frequently than others. As major businesses and parts of companies are subject to shorter audit cycles and smaller units to longer cycles, we do not report at the business unit level. Nor do we report on the identified significant corruption risks, as such information would constitute a business secret.
10	GRI 205-2: Communication and training about anti-corruption policies and procedures	17/18	We do not report quantitatively on training for the Board of Management and Supervisory Board because data on this is not available in accordance with the requirements of the GRI. Anti-corruption training for employees is implemented globally. We are checking the information for the region for the 2021 reporting year.
	GRI 206: Anti-competitive Behavior 2016		
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16-18	
10	206-1: Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	AR 237, 240/241	
	GRI 207: Tax 2019		
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	19	
	GRI 207-1: Approach to tax	19	
	GRI 207-2: Tax governance, control, and risk management	19	
	GRI 207-3: Stakeholder engagement and management of concerns related to tax	19	
	GRI 207-4: Country-by-country reporting		We do not report any country-by-country information, since this data is not available for 2020. We are examining the possibilities for collecting the corresponding data.
	Environment		
	GRI 302: Energy 2016		
7-9	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	7, 69-71	
7, 8	GRI 302-1: Energy consumption within the organisation	69	

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UNGC Principles	GRI Standards	Page and/or link	Comment
8	GRI 302-3: Energy intensity	69	
8	GRI 302-4: Reduction of energy consumption	69; www.bayer.com/CDP-Climate	
	GRI 303: Water and Effluents 2018		
7, 8	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	5, 35, 41/42, 70-73	
7, 8	GRI 303-1: Interactions with water as a shared resource	71-73	
7, 8	GRI 303-2: Management of water discharge-related impacts	71-73	
8	GRI 303-3: Water withdrawal	72	
8	GRI 303-4: Water discharge	72/73	
8	GRI 303-5: Water consumption	72	
7-9	GRI 304: Biodiversity 2016		
8	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	5, 24/25, 32, 35-38, 70/71	
8	GRI 304-1: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	38	
7-9	GRI 304-2: Significant impacts of activities, products, and services on biodiversity	24/25, 32, 35-38	
	GRI 305: Emissions 2016		
7-9	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	5, 7, 9, 65-71, 80	
7, 8	GRI 305-1 Direct (Scope 1) GHG emissions	67/68	
7, 8	GRI 305-2: Energy indirect (Scope 2) GHG emissions	67/68	
7, 8	GRI 305-3: Other indirect (Scope 3) GHG emissions	67/68; www.bayer.com/CDP-Climate	
8	GRI 305-4: GHG emissions intensity	68	
8,9	GRI 305-5: Reduction of GHG emissions	7, 9, 65-68	
7, 8	GRI 305-6: Emissions of ozone-depleting substances (ODS)	71	
7, 8	GRI 305-7: Nitrogen oxides (NOX), sulphur oxides (SOX) and other significant air emissions	71	
	GRI 306: Effluents and Waste 2016		
8	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	36/37, 42, 70-75	
8	GRI 306-1: Water discharge by quality and destination	72/73	
8	GRI 306-2: Waste by type and disposal method	74	
8	GRI 306-3: Significant spills	75, 79	
	GRI 307: Environmental Compliance 2016		
8	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16, 70/71	
8	GRI 307-1: Non-compliance with environmental laws and regulations	<u>AR</u> 14, 242/243	
	GRI 308: Supplier Environmental Assessment 2016		

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UNGC Principles	GRI Standards	Page and/or link	Comment
7, 8	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	7, 46-50, 65-67, 78-80	
7, 8	GRI 308-1: New suppliers that were screened using environmental criteria	49	As the reported procedure for evaluating our suppliers (including according to environmental criteria) includes the new suppliers, we do not report the percentage of new suppliers separately.
7, 8	GRI 308-2: Negative environmental impacts in the supply chain and actions taken	49/50	
	Social		
	GRI 401: Employment 2016		
6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	54, 61	
6	GRI 401-1: New employee hires and employee turnover	56	
	GRI 401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees	59; www.bayer.com/employee-benefits	
6	GRI 401-3: Parental leave	61/62	
	GRI 402: Labour/Management Relations 2016		
3	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	60/61, 64	
3	GRI 402-1: Minimum notice periods regarding operational changes	60	
	GRI 403: Occupational Health and Safety 2018		
1	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	13, 64, 70/71, 75-78	
	GRI 403-1: Occupational health and safety management system	70	
	GRI 403-2: Hazard identification, risk assessment, and incident investigation	75/76	
	GRI 403-3: Occupational health services	76	
	GRI 403-4: Worker participation, consultation, and communication on occupational health and safety	76	
	GRI 403-5: Worker training on occupational health and safety	76	
	GRI 403-6: Promotion of worker health	54, 64	
	GRI 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	26, 76-79	
	GRI 403-8: Workers covered by an occupational health and safety management system	70	The HSE Management and HSE Key Requirements corporate regulation applies to all Bayer employees and all contractors directly supervised by Bayer. Our global HSE management system is audited internally. We do not report on the number and percentage of workers covered by a management system since we use the energy consumption of environmentally relevant sites as a reference parameter.
	GRI 403-9: Work-related injuries	75/76	We do not report separately on work-related injuries with serious consequences. These are included in the data.

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UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 403-10: Work-related ill health	75	
	GRI 404: Training and Education 2016		
6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	54, 59-61	
6	GRI 404-1: Average hours of training per year per employee	59	
	GRI 404-2: Programmes for upgrading employee skills and transition assistance programmes	57-60	
6	GRI 404-3: Percentage of employees receiving regular performance and career development reviews	60/61	
	GRI 405: Diversity and Equal Opportunity 2016		
1, 6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	54, 58, 62/63	
6	GRI 405-1: Diversity of governance bodies and employees	55, 57, 62/63; AR 116–118	
6	GRI 405-2: Ratio of basic salary and remuneration of women to men	58	
	GRI 406: Non-discrimination 2016		
6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16, 54	
6	GRI 406-1: Incidents of discrimination and corrective actions taken	16	We do not report on the number of incidents of discrimination. We report on the total number of notifications registered with the compliance hotline. We internally record the precise reason for the grievance, track how it is followed up and take corresponding action in line with our corporate policy. More detailed information on this would constitute a business secret.
	GRI 407: Freedom of Association and Collective Bargaining 2016		
2, 3	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	47-52, 54, 64	
2, 3	GRI 407-1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	51/52, 64	
	GRI 408: Child Labour 2016		
2, 5	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	47-54	
2, 5	GRI 408-1: Operations and suppliers at significant risk for incidents of child labour	51-53	
	GRI 409: Forced or Compulsory Labour 2016		
2, 4	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	47-52, 54	
2, 4	GRI 409-1: Operations and suppliers at significant risk for incidents of forced or compulsory labour	51/52	
	GRI 412: Human Rights Assessment 2016		
1, 2	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	48, 51/52	
2	GRI 412-1: Operations that have been subject to human rights reviews or impact assessments	51/52	
1	GRI 412-2: Employee training on human rights policies or procedures	51	
2	GRI 412-3: Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	48, 70	

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UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 413: Local Communities 2016		
1	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	70/71, 77-79, 81	
1	GRI 413-1: Operations with local community engagement, impact assessments, and development programmes	21, 81-83	
1	GRI 413-2: Operations with significant actual and potential negative impacts on local communities	71, 77-80	
	GRI 414: Supplier Social Assessment 2016		
1-6	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16, 46-53	
1-6	GRI 414-1: New suppliers that were screened using social criteria	49	As the reported procedure for evaluating our suppliers (including according to social criteria) includes the new suppliers, we do not report the percentage of new suppliers separately.
1-6	GRI 414-2: Negative social impacts in the supply chain and actions taken	48-53	
	GRI 415: Public Policy 2016		
10	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	18/19	
10	GRI 415-1: Political contributions	18	
	GRI 416: Customer Health and Safety 2016		
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	26-28, 30-33, 38-41	
	GRI 416-1: Assessment of the health and safety impacts of product and service categories	26-28, 30-33, 38-41	
	GRI 416-2: Incidents of non-compliance concerning the health and safety impacts of products and services	33/34; AR 8/9, 14, 74/75, 237-239, 243	
	GRI 417: Marketing and Labelling 2016		
7	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	15, 17/18, 26/27, 29-32, 38-41	
7	GRI 417-1: Requirements for product and service information and labelling	15, 27, 29-32, 38, 40/41	
	GRI 417-2: Incidents of non-compliance concerning product and service information and labelling	AR 8/9, 14, 237-239	
	GRI 417-3: Incidents of non-compliance concerning marketing communications	AR 238, 241	
	GRI 418: Customer Privacy 2016		
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	16-18	
	GRI 418-1: Substantiated complaints concerning breaches of customer privacy and losses of customer data		We do not report on the number of breaches of customer privacy and losses of customer data. We report on the total number of notifications registered with the compliance hotline. We internally record the precise reason for the grievance, track how it is followed up and take corresponding action in line with our corporate policy. More detailed information on this would constitute a business secret.
	GRI 419: Socioeconomic Compliance 2016		

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UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 103: Management Approach 2016 (including 103-1, 103-2, 103-3)	15-18	
	GRI 419-1: Non-compliance with laws and regulations in the social and economic area	AR 75, 173/174, 189, 218, 237, 239, 241-243	

AR = [Bayer Annual Report 2020](#)

Glossary

A

Additionality

Compensation projects aimed at reducing greenhouse gases must ensure that their reduction, prevention or storage of emissions occurs additionally. This means that the project's climate protection measure would not have occurred without the expected revenue from the sale of emissions certificates. The technical term for this is the additionality of emissions reductions. Furthermore, the emissions reduction measure must be conducted on an ongoing basis.

B

Biocides are substances and products that control pests such as insects, mice and rats, as well as algae, fungi and bacteria.

Bt (Bacillus thuringiensis) is a bacterium that can be found primarily in soil, as well as on plants and in insect cadavers. The Bt toxins produced by the bacterium are used for biological pest control in agriculture and forestry, as well as to control disease-transmitting mosquitoes.

C

Corruption Perceptions Index (CPI)

is the world's most renowned corruption indicator. It is compiled by the International Secretariat of the NGO Transparency International and has listed countries according to their perceived levels of public sector corruption since 1995. The CPI comprises 180 countries.

CRISPR-Cas is a new molecular-biological method of specifically modifying genetic material. It enables individual DNA building blocks to be inserted, removed or modified. This process basically works with all organisms. It is used in animal and plant breeding, and in biotechnology.

E

Ecosystem Fund

The term "Ecosystem Fund" refers to a sum of grants or other funding opportunities created for organizations that address key global societal challenges. This includes incentivizing participation in expanding and shaping an ecosystem through cross-sector and multi-stakeholder collaboration, in order to enhance the positive impact of the provided funds, such as the Bayer Foundation's Social Innovation Ecosystem Fund.

Ecosystem services are the benefits people obtain from ecosystems. Ecosystem services upon which crop production depends include, for instance, soil fertility, soil erosion prevention, nutrient cycling, soil organic matter provision, pest control, water regulation and pollination.

G

GHG (Greenhouse Gas) Protocol

The Greenhouse Gas Protocol is an internationally recognized tool for recording, quantifying and reporting greenhouse gas emissions. Its standards cover all emissions within a company's value chain. Bayer aligns itself to the Corporate Standard for direct (Scope 1) and indirect (Scope 2) greenhouse gas emissions and also to the Corporate Value Chain Accounting and Reporting Standard (Scope 3), which covers further indirect emissions along the value chain. Dual reporting was introduced for indirect (Scope 2) emissions. Indirect emissions have to be reported using both the location-based and the market-based methods. The location-based method uses regional or national average emissions factors, while the market-based method applies provider- or product-specific emissions factors based on contractual instruments.

H

Herbicide-tolerant plants are resistant to the mechanism of action of a herbicide.

L

LMICs (low- and middle-income countries)

According to the World Bank, these include low- and middle-income economies (low/lower middle/upper middle) with a GNI per capita maximum income ranging from US\$1,036 /4,035/ to US\$12,535 (based on 2019 figures, calculated according to the World Bank Atlas method).

R

3Rs principle in animal welfare (replace, reduce, refine)

Replace: prior to each project, Bayer checks whether an approved method is available that does not rely on animal studies and then applies it. Reduce: in case no alternative method exists, only as many animals are used as are needed to achieve scientifically meaningful results based on statutory requirements. Refine: Bayer ensures that animal studies are performed in a way that minimizes any suffering to the animals.

S

Significant locations of operation

A selection of countries that accounted for more than 80% of total Bayer Group sales in 2020 (Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Russia, Spain, Switzerland, the United Kingdom and the United States).



Masthead

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