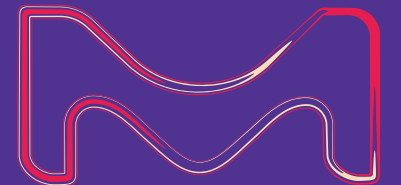




sustaining life for generations

**Sustainability at Merck KGaA, Darmstadt,
Germany**

Investor Relations
Darmstadt, October 2021



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Scientific exploration and responsible entrepreneurship

Caring, pioneering and outperforming

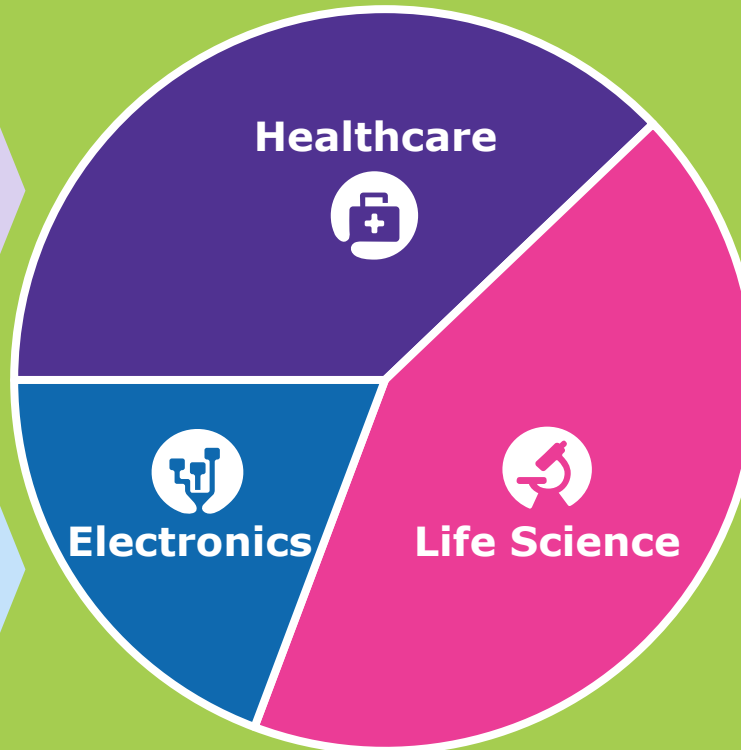


Healthcare

- Patients are at the center of our work and with every advance, we are improving lives

Electronics

- We want to be the partner of choice for those creating the innovations of tomorrow



- Accelerating Science & technology leadership
- Innovation Power
- Pioneering Products
- Responsible Governance

Life Science

- We want to solve science's toughest challenges and accelerate access to better health

Sales Split 2021



sustainability impact

Accelerating positive impact on environment and society



Enabling a sustainable future for an increasing number of people: Where we can make the biggest difference



3



Good health and well-being

With our products, we create a positive impact on the health and quality of life of people around the world.

8



Decent work and economic growth

We see it as our responsibility to respect human rights both within our company and along our supply chain. That is why we are dedicated to upholding appropriate and fair labor and social standards.

9



Industry, innovation and infrastructure

We use our expertise in science and technology to make our products, processes and infrastructure sustainable.

Responsible consumption and production

We use resources efficiently and reduce waste and emissions. We pay attention to this throughout the entire life cycle of our products.

12



Partnerships for the goals

We need strong partners in order to drive sustainable development within our company and beyond and to better meet societal challenges. We therefore collaborate with a wide array of organizations, companies, federations, and networks.

17



Additional contribution to:



Boundaries of human progress today will become reality tomorrow: Our sustainability goals

Positive impact through our products

- Give access to medicine
- Enable cutting edge technologies
- Support greener production

01

Dedicated to human progress

*In 2030, we will advance human progress for
>1 bn people through sustainable science & technology*

- Sustainable innovations and technology for our customers
- Impact of our technologies and products on health and well-being



Stabilize production and minimize risks

- Actively manage ESG risks
- Training on policies & standards
- Manage sustainability in supply chain

02

Creating sustainable value chains

*By 2030, we will integrate sustainability into
all our value chains*

- Sustainability culture & values
- Sustainable and transparent supply chain
- Securing our social license to operate in all regions



Minimize negative impact through our operations

- Achieve climate neutrality
- Manage water efficiency
- Reduce waste

03

Reducing our ecological footprint

*By 2040, we will achieve **climate neutrality**
and **reduce our resource consumption***

- Climate change & emissions
- Water & resource intensity



Group's Sustainability Strategy

Deep dive strategic focus areas

Sustainability innovation and technology for our customers

- Sustainability as integral part of **product design**
- Enable **customers** to reduce sustainability footprint
- SBV as a tool to assess net sustainability **impact**

Health and wellbeing impact of our technologies and products

- Health (Healthcare, Life Science) & wellbeing (Life Science, Electronics)-related impact of:
 - Our **products**
 - Our **activities**

Climate change and emissions

- **Greenhouse gas emissions** Scope 1, 2, 3
- **Renewable energy**
- **Energy efficiency** in operations



Sustainability culture & values

- **Diversity & inclusion** activities
- Sustainability **mindset**: Communication, trainings, incentive schemes
- **Employee engagement**

Sustainable and transparent supply chain

- Supply chain management activities:
 - Sustainability **assessments**
 - Supplier **data management**

Secured social license to operate across regions

- **Safe & ethical** research, **ethical & compliant** business conduct
- **Plant & process** safety, **patient & product** safety
- **Stakeholder** engagement & communication

Water and resource intensity

- **Waste & water** management and **recycling**
- **Circular** activities



Group's Sustainability Goals 1|3

Dedicated to human progress

Sustainable innovations and technology for our customers

We believe that we can harness science and technology to help tackle many global challenges.

Impact of our technologies and products on health and well-being

At least half of the world's population still does not have adequate access to health. We strive to increase quality of life, healthy living and well-being.

Examples

mRNA technologies

Access to Medicine

Fighting malaria & schistosomiasis

goal 01



Group's Sustainability Goals 2|3

Creating sustainable value chains

Sustainability culture and values

Sustainability has been part of our company culture for centuries and is reflected in our values.

Sustainable and transparent supply chain

Our supplier management focuses on high-quality, delivery reliability, and competitive prices in addition to global compliance with fundamental environmental and social standards.

Securing our social license to operate in all regions

We aim to mitigate the ethical, financial and societal risks of our business activities and in doing so, we advocate for and ensure our social license to operate.

Examples

Diversity as a core pillar

Supplier sustainability interaction and decarbonization

Networks and trainings to bolster sustainability

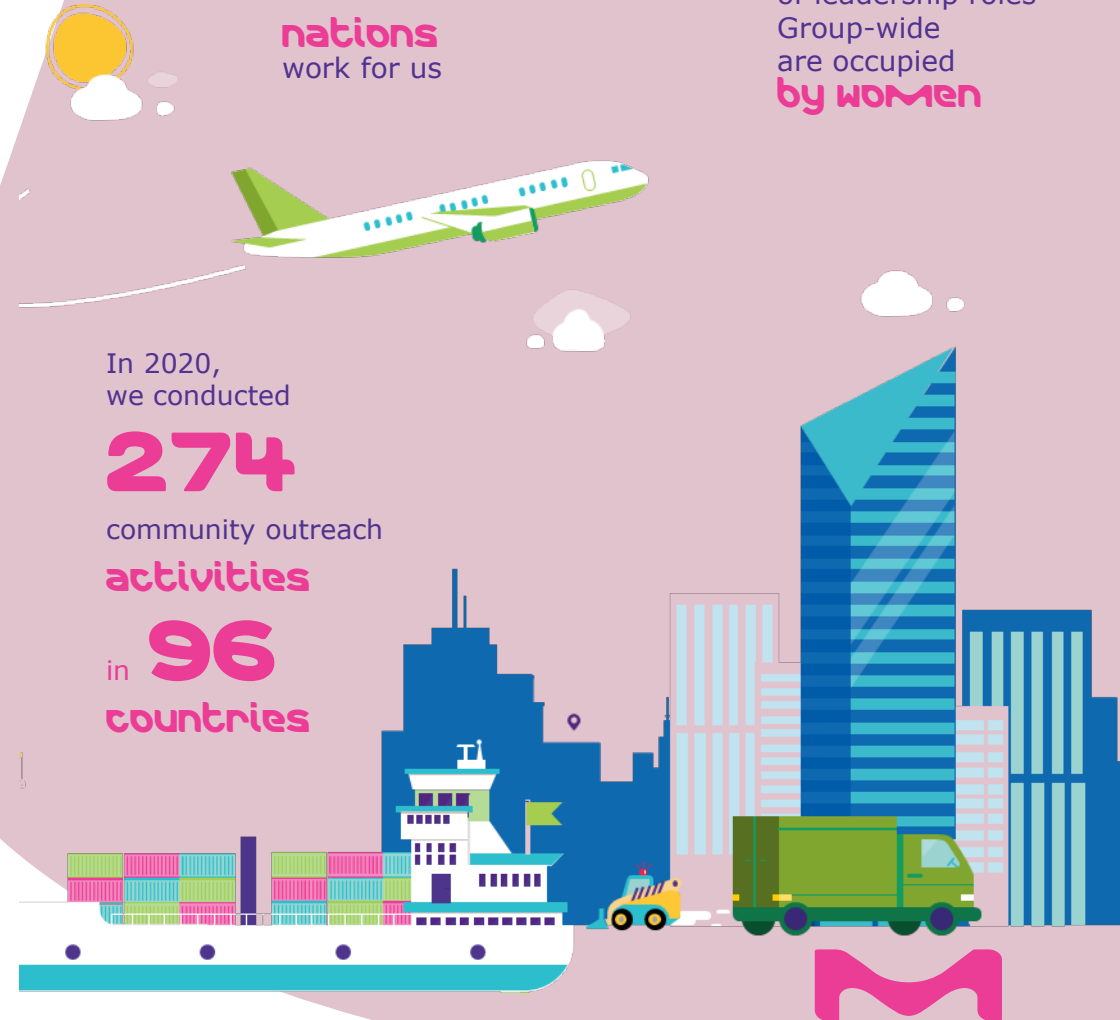
goal **02**

People from
141
nations
work for us

35%
of leadership roles
Group-wide
are occupied
by **women**

In 2020,
we conducted

274
community outreach
activities
in **96**
countries



Group's Sustainability Goals 3|3

Reducing our ecological footprint

goal **03**

Climate change and emissions

We are doing our part to help mitigate climate change because we believe that climate protection and energy efficiency will pay off in the long run – for both the environment and our business.

Water and resource intensity

We strive to use our resources as efficiently as possible. We aim to conserve and recycle water and reduce waste.

Reduce the impact on the environmental footprint of our products by improved packaging

We are working to find new ways of making our Life Science products and packaging more environmentally sustainable, while still getting them to our customers in a safe and timely manner.

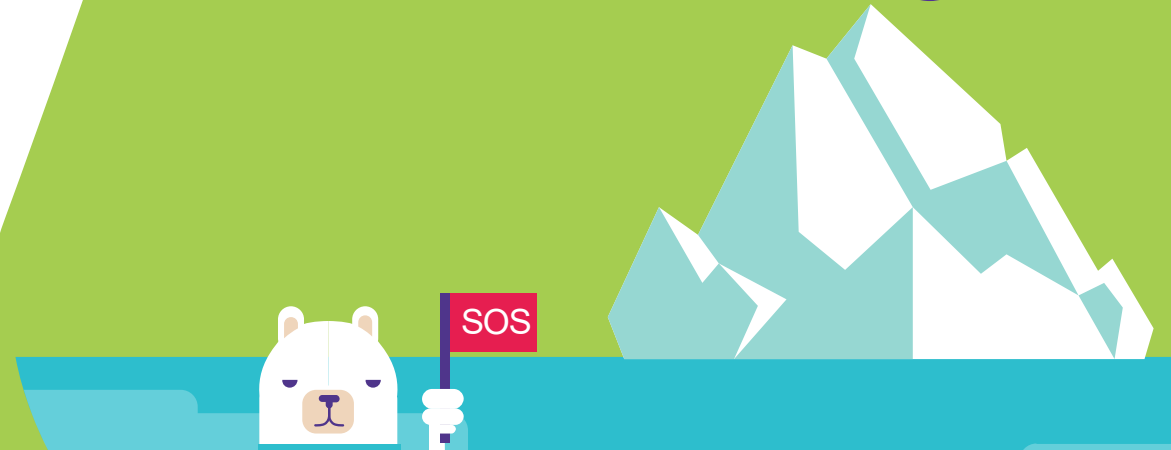
Examples

Green Virtual
Power Purchasing
Agreements

4th cleaning step in
Darmstadt waste
water plant

SMASH packaging
program

2040
**climate
neutrality**










Sustainability Milestones

Clear set of tasks to enable our 2030 ESG goals

Tasks

Development In place

Results and next steps

Analysis of requirements: Strategy, business, regulation, stakeholders		Ongoing due to developing field of ESG stakeholder expectations and regulation
Build effective data platform for internal steering		Feed in internal data, external data, industry benchmarks and modelling projects in 2021
Develop ESG KPIs for reporting		Developing & evaluating ESG KPIs for steering, milestones, decide on reporting in 2021
Develop SBV tool ¹ to measure product sustainability value		SBV tool developed and tested in up to 10 cases by 2021
Link ESG ² to board compensation with 20% sustainability factor from 2022 on		Approved by AGM, qualitatively included, quantitative factor to be developed in 2021
Further incorporate ESG in R&D, Controlling, M&A and Supply Chain		ESG-Framework M&A/Capex in 2021 , progress in supply chain, controlling, R&D
Decide on dedicated investments and initiatives to achieve targets		Business strategies and priorities under development, budgeting & decisions in 2021

¹Sustainable Business Value: Dive in deeper and read the research article on the [SBV method](#); ²ESG: Environmental, Social, Governance



Measuring Sustainability Impact of Business along the Value Chain

7 dimensions of Sustainability Business Value (SBV)



First use cases across B2C & B2B calculated, e.g.

Liquid Crystal Windows

Maintain the **benefits of natural light** while providing indoor privacy on demand as well as shading.

Schistosomiasis Elimination Program

Provide up to 250 million praziquantel tablets annually for **treatment of schistosomiasis** in 47 African countries.




Solvents for Pharmaceuticals

Enabling the **next generation of drugs** by serving applications in the pharmaceutical industry across R&D, production, and quality control.



Merck KGaA, Darmstadt, Germany

Expanding KPIs to monitor and steer sustainability comprehensively

Goal	Exemplary KPIs to be implemented in 2021
 01 Human Progress	# of people positively impacted by our technologies/products % of new patent families with positive sustainability impact
 02 Sustainable Value Chain	Environment, Health and Safety: Incident Rate % of employees trained on sustainability % of relevant suppliers that are covered by a sustainability assessment/audit
 03 Ecological Footprint	Greenhouse Gas Emissions Scope 1+2 Greenhouse Gas Emissions Scope 3 Waste Score & Water Intensity Score

Our sustainability ambition is integrated in the **Executive Board remuneration system**

From 2021 onwards:

Explicit reflection of the new targets on **qualitative level** in the criteria **for the profit sharing modifier** (0.8-1.2)

In addition, from 2022 onwards:

Quantitative sustainability factor (0.8-1.2) applicable in the **long-term incentive plan** for the executive board

Set of sustainability KPIs will build the underlying basis for the development of the sustainability factor

Reduce our environmental footprint: Emissions, Water and Waste

goal **03** Reducing our
Ecological Footprint



Climate neutrality by 2040

- Aiming for **climate neutrality** (scope 1-3 emissions) **by 2040**
- **Lower scope 1 and 2 GHG¹ emissions by 50%** and to source 80% of purchased electricity from renewable sources until 2030 vs. 2020 baseline (2020: ~2,100 kt)
- **Absolute reduction of 1,500 kt² scope 3 CO₂ equivalents** by 2030



Enhance water efficiency, reduce harmful emissions

- Enhancing water efficiency and **improve the new Merck KGaA, Darmstadt, Germany water intensity score by 10% by 2025** vs. 2019 baseline
- Minimize negative environmental impacts, **harmful emission residues should be lowered** below a scientifically defined threshold by 2030



Reduce waste impact

- Based on the Group's Waste Score, we have set ourselves the goal of **reducing the environmental impact of our waste by 5%** by 2025 compared to 2016
- By end of 2020, we achieved a reduction of 4.6%



Diverse human capital

Thinking, talking, and leading differently

Focus areas	Status quo 2020	Aspirations
Gender	35% women in leadership globally	Gender parity* until 2030
Culture & Ethnicity	20% of underrepresented ethnic colleagues in US leadership	Increase to 30% until 2030
	16% of nationals from Asia, Latin America, Middle East & Africa in leadership	Increase to 30% until 2030
Inclusion	Rollout of Inclusive Leadership Programs and participation of leaders across all business	Participation of all leaders by 2026

* The gender concept considers room for non-binary people



The **uniqueness** of our people brings our **curiosity** to life. It contributes to our success in **science & technology**.



External stakeholders assess our engagement



As of 2021, the Group received an MSCI **ESG* Rating of AAA**.

*Environment, Social, Governance



In March 2021, we received an **ESG Risk Rating** of 19.5 and were assessed by Sustainalytics to be at **low risk** of experiencing material financial impacts from ESG factors.



Since 2008, we are part of **FTSE4Good Index**, measuring the performance of companies with strong ESG practices (top 15).



In 2020, we have once more achieved **prime status** by **ISS Oekom**.



In 2019, the Group share was again **included in STOXX Global ESG Leaders Index**, a sustainability index based on key environmental, social and governance criteria.



The Group has been **reconfirmed** as a constituent of the **Ethibel Sustainability Index (ESI)** Excellence Europe since May 2020, based on VigeoEiris.



Merck KGaA, Darmstadt, Germany for the second time received platinum status in 2021, among the **top 1% of companies**. **EcoVadis** annually examines ~75,000 suppliers from 160 countries.



CDP Climate: In 2020, we scored "B" (2019: C). **CDP Water:** In 2020, we received a "B" (2019: B).



In the 2021 **Access to Medicine Index** we ranked **eighth place**. We were recognized for our performance in R&D, where we ranked fifth.



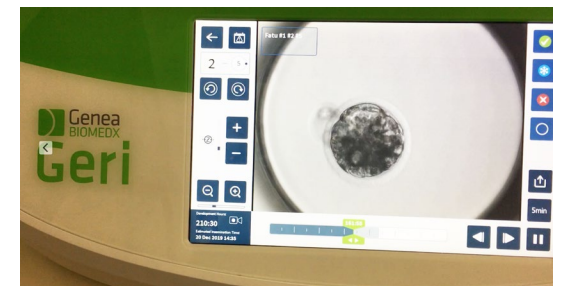
Generating positive impact by usage of our innovations

Further hope to save the Northern White Rhino

October 4th
World Animal Day



- Northern White Rhino suffered for decades on illegal hunting of their horns leaving only two female Northern White Rhinos left
- Collaboration with conservationists and research groups of the BioRescue project, part of a multi-national partnership
- Funded by the German Federal Ministry of Education and Research (BMBF), supported by Leibniz Institute for Zoo & Wildlife Research, and local partners in Kenya
- With the donation of Geri®, we are giving access to world-leading fertility technologies as well as providing ongoing counsel and scientific expertise
- Fertilized eggs developed into viable embryos with the help of Geri® (innovative benchtop incubator with integrated continuous embryo monitoring capabilities)
- Next step of the project: prepare the surrogate mother for the embryo transfer



 [Link to project video](#)

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